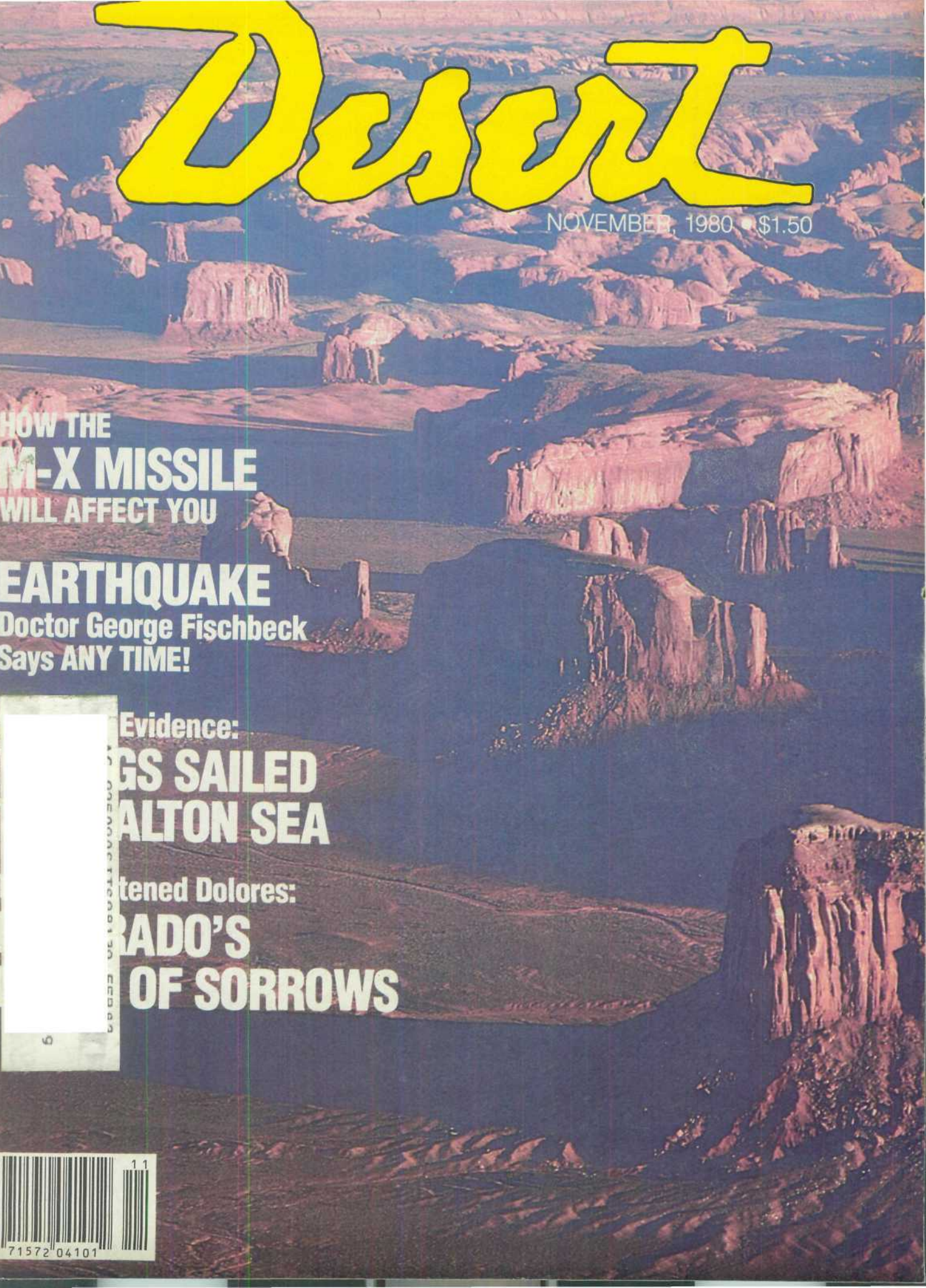
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I see God moving across the deserts . . . His brilliant splendor fills the earth and sky . . . *Habakkuk 3:3*

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### *Cover*

Barrie Roakeach took our cover photograph of Monument Valley from his plane, looking southeast, at a height of 6,000 feet. The unusual rock formations, called pinnacles by some and monuments by others, stand starkly in the late afternoon light.

# Desert

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# EDITORIAL

# *Homo sapiens* — An Endangered Species?

CONGRESSMAN JERRY Lewis (R-Calif.) didn't ask that question. He stated it as a possibility verging on fact, a designation we might soon merit in his opinion if conservationists and their allies in the scientific community persist in placing the welfare of threatened fauna and flora over that of man.

But this should be put in perspective, something man generally does but not conservationists or scientists. Most recent clashes have pitted the raw survival of the lesser species against the *material* welfare of man. And man generally considers a dollar in hand to be preferable to one in the bush.

A recent illustration involves *Uma inornata*, known also as the Coachella Valley or white fringe-toed lizard. I can't say "commonly known" because it isn't common. Adults of the species range from four to seven inches in length and weigh but a few ounces. And as far as we know, these lizards contribute nothing to society, which is a sin in and around Palm Springs. However, within their little bodies, not yet fully explored by scientists, may lurk the juice or tissue destined to be the key to a breakthrough in medicine or space, or perhaps even in building materials.

Those who prefer a desert populated by *Uma inornata* and their threatened ilk to a proliferation of *Homo sapiens* and his accompanying *Ferous erectus* are quick to cite the hoary example of Dr. Alexander Fleming finding in lowly bread molds the clue that led to penicillin. There were at that time those who wanted to eradicate bread mold.

Most members of the Lizard Family, as widespread in the animal kingdom as Joneses are in man's, seem to thrive in the human presence. One branch of the clan even is named "fence lizard" after its preference for crawling and sunning itself on fences. Unfortunately, though, fences or more specifically, windbreaks, are the nemesis of *Uma inornata* because he must have blowing sand to escape from his predators. The realtors of the Coachella Valley, on the other hand, look upon blowing sand with disfavor and therein lies the confrontation whereof I speak.

Conservationists have proposed that *Uma inornata* be officially listed as "endangered" and in anticipation of this, the federal Office of Endangered Species has selected 18.5 square miles of Coachella Valley desert to be set aside for the lizard. But, this acreage is valued at $64,000,000 and two shopping centers are planned for it, the loss of which would cost man $25,000,000 annually. To allow both man and lizard on the land would require environmental impact statements that require years to process through government channels.

Again in perspective, the fate of *Uma inornata*, however it is resolved, typifies a serious, spreading quandary for man and animal. The lizard could probably coexist with the shopping centers if sand were allowed to blow into and around them, but customers couldn't. So which is the more important, lizard or man?

Some well-intentioned men might logically suggest that if certain species such as this lizard, or the bald eagle, bighorn sheep, Siberian tiger or grey whale can't make it in today's world, then the survivors should be promptly collected and put into an artificially safe environment such as a zoo. There they could perpetuate themselves for the benefit of both science and our grandchildren.

That logic evaporates, however, when one learns that the 750 Siberian tigers in captivity cost $1,200,000 a year to feed and when you add in keeper, veterinary, territorial, heat and other necessary expenses at $4.50 per animal per day, the world annual zoo bill for the tiger alone is $2,432,000.

Then if the world's existing zoos elected between them to maintain 500 of each of 2,000 species, the bill for twenty years would be $25 *billion*! That, it will be remembered, is almost exactly what it cost to put man on the moon.

And now to achieve the sharp edge of perspective, we must consider the rabbit in all of its variety, the coyote, the burro and crab grass which are among the living things man has not only been unsuccessful in threatening but which on occasion, threaten him.

Nature's rule, not man's, is survival of the fittest. Rabbits and crab grass are obviously fit and the tiger (and dinosaur) wasn't. And we have but two alternatives — either pay what it costs to save the unfit or settle for an environment of rabbits and crab grass. Indeed, the greed of Palm Springs man and the single-mindedness of the environmentalists have common ground upon which they can meet if the government will let them.

Don Wade Donald

## Notice to subscribers

***Desert*** Magazine rents its mailing list. This means that other organizations, both for profit and nonprofit, can send bulk mailings to our subscriber list in return for a fee. We limit the use of these names to organizations we believe to be reputable, and every mailing piece must be submitted to us for approval before it is sent.

If you would prefer not to receive mailings of this kind, write to Privacy, ***Desert*** Magazine, P.O. Box 1318, Palm Desert, California 92261. Please include a mailing label from a recent issue.

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# THE SECOND TIME AROUND

by Nyerges

*What can you do with an old, non-working Water Heater?*

*Make a*

# COMPOSTER

*for kitchen & garden organic debris*

**1** Remove center heating device

**2** Remove top

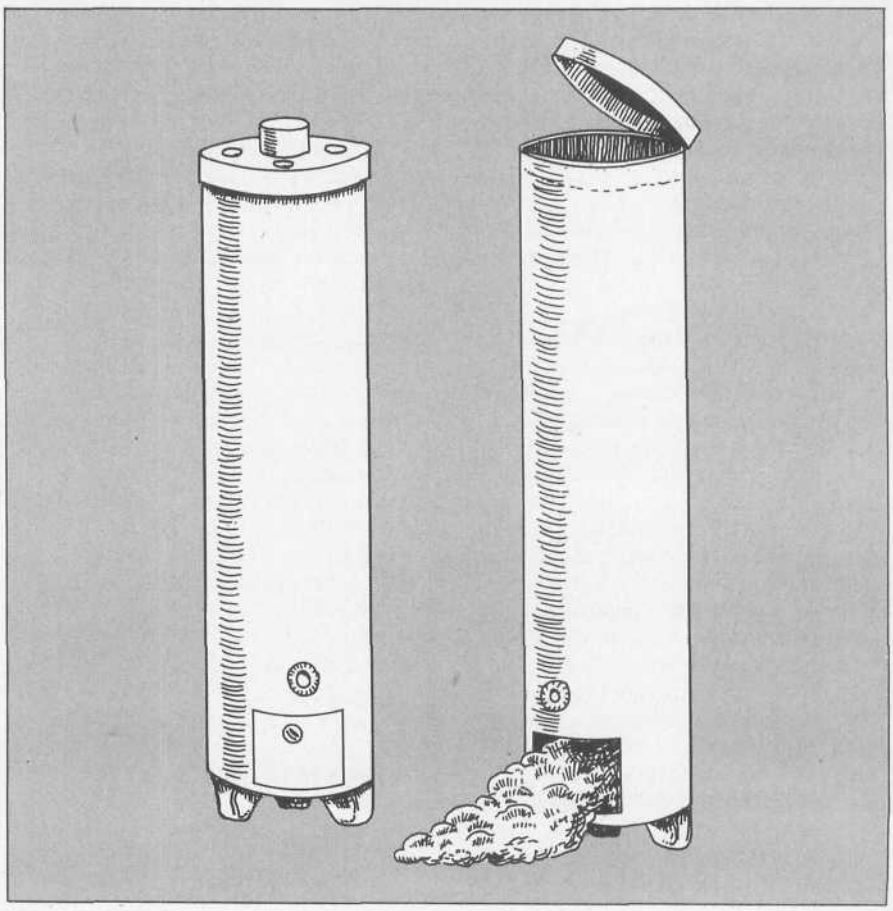
**3** Remove water tank & insulation (The tank makes a good solar water heater.)

**4** Use the outer shell as composter. Organic matter goes in top and decomposes quickly due to heat retention within metal shell.

**5** Keep lid on, with plastic liner, to hold in heat & deter flies.

**6** Manure or ashes can be added to deter flies and ants.

**7** Once the shell is full, compost should be ready to use. Shovel out at bottom



# The Web of Life

by Susan Durr Nix

In a vignette of interdependence and survival in the American southwest, a bird, a berry and a bush star, with livestock and insects playing subordinate roles. The bush is the mesquite, a thorny, hard-bitten tree, sometimes shrub, noteworthy for its roots, wood, flowers, fruits and adaptability. The bird is the jet black phainopepla (pronounced *fain-a-pep-la*) whose favorite roost is the mesquite. The berry is the fruit of the desert mistletoe *(Phoradenron californicum),* the link between the berry and our bush. "The web of life," by which ecologists often refer to nature's intricate interconnections, is seldom as neatly illustrated as in this "weblet" of plant and animal cooperation.

Because its singularly long taproot furnishes water for the whole system, we begin with the mesquite, a member of the pea family that includes acacia, ironwood and palo verde. It is easily recognized by long flat "pea pod" fruits and ferny foliage. The most common variety is "honeypod" mesquite, whose sweet nutritious pods were a staple in the diet of many southwestern Indians and are relished by browsing animals like cattle and deer.It is native to arid woodlands and deserts from central California through southern Nevada and southern Utah to west Texas and south through much of Mexico.

Mesquite will either grow into a tree some twenty feet high or become a scrubby bush, depending on where the seed has taken root. In dunes areas, blowing sand, checked by branches and foliage, builds up around the base of the plant and eventually threatens to bury it. But if the erstwhile tree can manage to keep its head above water, so to speak, a mesquite-topped dune is formed. Although the plant looks like no more than a brambly topknot, its great buried limbs and roots are actually holding the sand mound together. Mesquite thickets are common along water courses and fault lines.

Rather than depending on occasional rains, mesquite draws moisture from groundwater reservoirs and is often used as a water indicator by well diggers. Once a seed has sprouted, all the plant's energy goes into root growth — up to thirty or more feet — toward a permanent water supply. Only then does the visible plant grow appreciably. So far as anyone knows, mesquite holds the record for the longest roots ever grown anywhere: 175 feet (Tucson, Arizona) and 250 feet (Coachella Valley, California).

As far as roots are concerned, mistletoe is the antithesis of mesquite, for it has no connection with the soil and no means of

KAREN SAUSMAN

*Phainopepla*

KAREN SAUSMAN

*Mistletoe*

retaining rain water. It free-loads off the mesquite's water and mineral supply, using root-like growths that wedge themselves into the plant and drip-feed off the host cells. Because it contains chlorophyll to manufacture its own food, mistletoe is called a partial parasite, a distinction, however, that is lost on a mesquite overwhelmed by tangled masses of this brittle, twiggy hanger-on. It usually takes a long time for mistletoe to kill its host, and incidentally itself, partially because of the resistance of the bush and partially because of the activities of that bird, the phainopepla.

Christmas mistletoe with its fleshy leaves and white berries is a mountain variety. Leafless desert mistletoe produces pinkish-red berries and is parasitic mainly on pea family plants and particularly on mesquite. It is easily recognized in winter as a clump of green stems among largely leafless branches. When the mistletoe rootlet tries to invade a healthy twig, the mesquite retaliates by discharging a clear gum (used to make gumdrops and glue) which quickly hardens under the sprouting seed, pushing it away. Continued growth in the rootlet triggers more gum and usually, the tree successfully repulses the invasion. This defense mechanism helps maintain a reasonable balance between mistletoe and mesquite. When it fails, the new mistletoe stunts the growth of the branch and eventually causes a tumor-like growth. One such on an ironwood tree weighed nearly 800 pounds.

Perched on the top of the tree where it gets full sun, mistletoe moves through its own flowering and fruiting cycle. It will die if it is too shaded. It blooms from November to April with male and female flowers that smell like apple blossoms and attract swarms of insects. Berries follow the flowers and with them comes the phainopepla, a bird so closely associated with mesquite that it is found nowhere outside of the American southwest.

During the winter and spring, phainopeplas (their name translates as "shining robe") feed almost exclusively on mistletoe berries. And just as mesquite relies on livestock for seed dispersal, desert mistletoe depends on birds, especially this bird. Rather than a resistant seed coating, however, the berries have an extremely sticky cover the birds find irresistible.

The phainopepla gorges himself on the berries which evidently have a marked effect on him, for as they pass through his alimentary canal, he rocks himself along the branch depositing droppings full of undigested seeds. The sticky residue sets quickly, literally gluing the seeds in place. This happens within minutes of his feeding, as the seeds are apparently harmed if they are not excreted quickly, a fact that almost insures they will be voided where they have the best chance of surviving — on a mesquite branch. Uneaten seeds adhere to the feathers and beaks of birds who rub them off on tree limbs.

Bluebirds, robins, mockingbirds, thrashers and quail are among the other birds that eat mistletoe berries, but none is as instrumental in its propagation and control as the phainopepla — the bird that eats the berry that lives on the bush that supplies the water that produces the pods that are eaten by the cattle that disperse the seeds that make new mesquite. Upset any part of this system and all is changed. The web is broken.

# LETTERS

## FROM A PEGLEG FAN

That "lively exchange" of misinformation between Choral Pepper and Don MacDonald (***Desert***, June 1980) has triggered long, scholarly and accurate letters on desert varnish which can only frustrate and antagonize Mr. Pegleg all the more. He was getting short-tempered way back in your December 1965 issue over the "repetitious" and "nit-picking" questions. Now you are beating this desert varnish thing again. Look at his letter inset in your first-mentioned issue. He has consistently used the terms "copper oxide coating," "tarnish," or maybe "patina," but never "desert varnish."

He further stated (***Desert***, June 1974, page 33) that "this nugget is starting to darken again even though (it) has been in a sack, locked away and not exposed to heat or light since being locked away (four years ago)." Mr. Pegleg cleared this all up and, well, you gotta believe. He is the ultimate expert! Don't antagonize him any more. Get him back on your side and we all might learn something.

*John Southworth*
*Burbank, Calif.*

## AND FROM PEGLEG HIMSELF

Dear Mr. MacDonald — and Choral Pepper if you will pass this on: Just a few lines to let you know that the man who found Pegleg's Black Gold is still around, hale and hearty, and enjoying life as always.

Your interview with Choral Pepper in the current (June, 1980) issue of ***Desert***, which just caught up with me, is quite to the point. She has articulated the entire adventure (that's what I always have regarded it) in a precise and succinct manner. Her deductions about me are uncanny in their accuracy.

Desert lovers like a little romance, adventure and mystery. What's wrong with giving it to them, especially when it is real, live and true? If ***Desert*** and its readers are still interested in the story, I can furnish more information from time to time.

I still have a goodly amount of the original find, and I've found more in the same area. At today's prices I'd estimate the value to be in excess of $2 million. Frankly, I haven't weighed it all out accurately. It is stashed in several different places.

Those who kept up with the story in the 1960s know that I used to spend summers in Alaska. Now, the summer trips are closer to home, usually in Montana, Oregon, Idaho or one of the northwest states.

Don't have any proof or nuggets with me to send you from here but will when I get home at the end of summer. I'll send a black nugget and a copy of the letter to Choral Pepper — that is, if you think ***Desert*** readers would still be interested. If you or Choral Pepper still have my original letters in the files (**Ed. Note: We do**), this will be the absolute proof (by comparing them) that I am the man who found Pegleg's Black Gold. Sincerely,

*The man who found Pegleg's Black Gold*
*Postmarked Ashton, Idaho*

**So there, Mr. Southworth! We showed this letter from Mr. Pegleg to Ms. Pepper who verified the authenticity of its style. And as to the authenticity of its author, she went on to say: "I believe our Mr. Pegleg found his nuggets where he said he found them and until I'm proven wrong, I'll go right along believing that one of the fun things to do on the desert is to go looking for more of the same."**

**Sure, we're interested and so are our readers. Proof is in the eight nuggets remaining in the collection originally sent to *Desert* by Mr. Pegleg which are once again on display at our offices.**

## A NOTE ON PRIVACY

How ironic that your sensible editorial, "Waste Not, Want Not," (***Desert***, Sept. 1980) should be on the page facing the notice to subscribers that you have rented your mailing list to whomever you choose so they can defoliate our trees with tons of bulk mailings that no one asks for and few people want. It appears that avarice outranks conservation when it comes to the bottom line; anything for that almighty dollar, right? For shame! Your editorial did mouth such good words. And I thought I admired you!

*Anne Lorensen*
*Los Alamitos, Calif.*

**A large majority of America's most respected consumer publications (over 2,000 titles) rent their subscription lists on a one-time basis to organizations that in their opinion offer a useful product or service, or that solicit moneys for a worthy cause. Most conservationist organizations, in fact, raise the bulk of their funds by direct mailings to persons like yourself who, by their choice of magazines, have indicated an interest in the cause of conservation. All publishers do, though, have the obligation to offer privacy to those who wish it. That is the reason for the notice on page 4 of this issue.**

## TWEEDLE DEE, TWEEDLE DUM

While your magazine is good, I feel that it could stand much improvement. I was in the hope that you would print more interesting articles as did the magazine in late 1959 and the early 1960s.

*Floyd Ruhl*
*Vista, Calif.*

I have noticed a change in your magazine lately. It is more like it used to be back in the 1940s and 1950s. I feel this is good, as this is the type of material that got me to subscribe in the first place.

*Francis G. Hall*
*San Bernardino, Calif.*

## GOOD NEIGHBORLINESS

My wife and I have traveled in Mexico for many years. We have camped out in Baja and on the mainland since 1945 and now that we are older, we have a trailer and go to Mexico at least once a year for two or three months. We certainly agree with the editorial in the August, 1980, issue of ***Desert***. We find the people of Mexico — if given a chance — most gracious and helpful.

*George H. Geisler*
*Yucca Valley, Calif.*

## OWLS HEAD MTN. OPEN

In your Sept. 1980 *Rockbound* column, Rick Mitchell says "... all roads to the Owls Head Mtn. collecting locations have been closed by the Death Valley National Monument administration." That isn't true. The major road into Owls Head (off Harry Wade Rd. west of Saratoga Springs) is still open and well maintained by the Pacific Telephone Company which needs it for access to its microwave station at the top.

*Dick Rayner, Ch. Ranger*
*Death Valley National Monument, Calif.*

**The editors of *Desert* Magazine welcome the experiences and opinions of readers and will publish as many letters as space permits. They should be addressed to us at P.O. Box 1318, Palm Desert, CA 92261. No unsigned letters will be considered, but names will be withheld upon request. Please be brief; otherwise, we cannot guarantee to print your letter in its entirety.**

# the CURIOUS NAMES of our WILDFLOWERS

article and photographs by
WAYNE P. ARMSTRONG

## CHINESE HOUSE

THE FLOWER CLUSTERS OF CHINESE HOUSES SUGGEST THE TIERED ROOFS OF AN ORIENTAL PAGODA.

❦ ❦ ❦

**The common or vernacular names of plants are often strange and even amusing at times. The pineapple is not in any way related to either pines or** apples, and peppergrass is not a pepper, nor is it related to the Grass Family. The logic behind names such as bouncing bet, ramping fumitory, bastard toadflax, lady-of-the-night, and go-to-bed-at-noon is not readily apparent. It is also rather disappointing to discover that Kentucky bluegrass was introduced from Europe and the California pepper tree is native to Peru. But in spite of the numerous irrational names for plants, there are many common names that are descriptive and meaningful; however, you may have to look very carefully to see the obvious derivation of the name.

All plants also have a scientific name consisting of a first name (genus) and a last name (specific epithet), sort of like the first and last names of people. Scientific names are commonly derived from Greek or Latin and are spelled the same way throughout the world. Therefore, *Pinus ponderosa* refers to the same tree, regardless of the country or native language. Since plants may have more than one common name,

## LYRE POD

THE FRUITS OF LYRE POD LOOK LIKE MINIATURE VERSIONS OF A HARP-LIKE INSTRUMENT CALLED A LYRE.

❦ ❦ ❦ ❦ ❦

## GROUND CONE

THESE CONE-LIKE STRUCTURES ARE THE FLOWER STALKS OF A SELDOM SEEN WILDFLOWER CALLED "GROUND CONE." NOTE THE SMALL FLOWERS BETWEEN THE SCALES.

and since common names may have different translations, scientific names are used in publications and scientific correspondence.

Scientific names, however, are not always completely logical when you consider a yellow violet named *Viola purpurea*, and a one-leaved (or is it two-leaved?) plant named *Unifolium bifolium*. The wildflower *Muilla* is an anagram derived by spelling its close relative *Allium* backwards. You can probably think of a popular laxative that is also an anagram. Although there is some disagreement among botanists, common names can be very useful, particularly when they describe a plant in a meaningful way that is easy to remember and pronounce.

There are numerous desert natives with very descriptive common names. The flowers of dyeweed are covered with little orange glands that produce a saffron-yellow dye which readily rubs off and was used by Indians for art work. The thorns of catclaw acacia are so effective that this shrub is sometimes called "wait-a-minute bush." Desert fir has dark evergreen leaves that look something like the needles of the cone-bearing fir tree, although they are not related. A wildflower called "tackstem" looks like someone drove small-headed nails into its stem. The "tacks" are actually small glands. The name sandpaper plant is readily apparent when you rub the leaves of this little desert shrub. Creosote bush is named for its olfactory similarity to the pungent wood preservative used on fence posts and telephone poles, although the commercial source is wood tar derived from the distillation of several eastern woods. Cheese bush, another common aromatic shrub, actually smells like cheese.

Wildflowers are named after just about every conceivable thing, including pincushions, brushes, houses, musical instruments, jewelry and the anatomy of animals. Just a few examples are pincushion flower, Indian paintbrush, Chinese houses, scarlet bugler, golden eardrops, mule ears, steer's head, deer's ears, elephant heads, cat's ears, ox tongue, lamb's quarters, goosefoot, bird's beak, and stork's bill.

❦ ❦ ❦

**The names of many desert natives are derived from Spanish and in some cases, are spelled the same way on both sides of the border. The vivid red flowers of chuparosa are frequently** visited by hummingbirds (*chuparosas*). The verb *chupar* means "to suck." What better name could have been given to the desert tree with pale green bark than palo verde (green stick)? An attractive gray shrub with yellow daisy-like flowers is appropriately called incienso because the resin was burned as incense in early Spanish missions. It is perhaps more commonly known as brittle bush because of its easily broken branches. The name calabazilla or little gourd aptly describes the trailing vine that is so common along desert washes and roadsides in late summer and fall. The common shrub of the high desert, yerba santa, had many medicinal uses by Indians and early settlers and literally means saintly or holy herb. The large senita cactus of southern Arizona and Mexico is named after the word *senita*, meaning "old one." The upper ribs of this cactus are covered with whisker-like spines, suggesting senescence.

❦ ❦ ❦

**The less apparent common names are even more intriguing, especially when you discover why the plant has its unusual name. One of the strangest and most interesting** wildflowers of the southwest mountains is called "ground cone." The plant is seldom seen by the casual observer, perhaps because it usually pushes out of the soil near or under the branches of shrubs. The above-ground flower stalk is strikingly similar to a small pine cone, and with age looks even more like an old, weather-beaten cone. But you can be sure it is not a pine cone when you see small purplish flowers between the numerous overlapping scales. The fleshy flower stalk arises deep in the ground from a large potato-like mass (tuber) which is wrapped around the root of a nearby host shrub. Ground cone is a root parasite related to the strange broom-rapes which appear in desert riverbeds and in the fields of irate tomato farmers. Broom-rapes were named from their one-sided parasitic affair with certain leafless shrubs called brooms. One of our desert brooms is called turpentine broom (*Thamnosma montana*), a strong-scented little shrub with purple flowers and gland-dotted fruits. It is one of the few native members of the Citrus Family found in the southwest.

One of the loveliest wildflowers of loose sandy soils and sand dunes is dune primrose (*Oenothera deltoides*). It has very showy, large white flowers that turn pinkish with age. It often grows in profusion with beautiful pinkish-purple sand verbena, producing a spectacular wildflower display.

Another common name for dune primrose is "desert lantern," and for years I was puzzled by the choice of this name. There is a reason. Dune primrose has a very interesting growth form consisting of a central ascending flower stalk with radiating branches extending in all directions along the ground. At the end of the spring flowering season, the greenish branches eventually dry and curl upward toward the central axis. Woody seed capsules that split into four prongs now occupy the positions where the large flowers used to be. This entire dried structure is the source of the common name "desert lantern." Some naturalists use the name "desert bird cage" which is perhaps even more descriptive because of the outer upturned branches (like vertical bars) around the main central axis. These "lanterns" or "bird cages" are often over 31 centimeters (one foot) tall, but because they are frequently partially buried by drifting sand, their complete form is not readily discernible.

Another close relative of dune primrose with much smaller flowers in dense terminal spikes is called desert bottle cleaner. Each little white flower develops into a woody, four-pronged seed capsule. The dried flower stalks, with numerous and crowded four-pronged capsules completely encircling it, greatly resemble a test tube or bottle cleaner, both in general appearance and size.

There are many different species of wild buckwheats in the southwest, but one of the most unusual is desert trumpet (*Eriogonum inflatum*). As the specific epithet implies, the stems are conspicuously inflated or flared just below the point of branching, vaguely reminiscent of several wind musical instruments. If you look very carefully you may see a small hole near the top of the inflated area. This is the entrance to a miniature food storage room and incubator for a minute wasp. The female wasp packs the cavity with insect larvae and then lays her eggs upon them. However, some desert trumpets do not have the inflated stems, so botanists have ingeniously named these as variety *deflatum*.

Two other wildflowers with peculiar seed pods are lyre pod and spectacle pod. Lyre pod is an interesting desert native of rocky outcrops and canyons, often found growing among clumps of other shrubs. It produces small seed pods with the general shape of a lyre, a small stringed harp-like instrument used by ancient Greeks to accompany singers and reciters. Curiously enough, a lyre-shaped marking occurs on the head of a seldom-seen snake that inhabits nearby rocky outcrops and hides during the day in deep crevices and under exfoliating granite slabs.

Any discussion of wildflowers with unusual names would not be complete without mentioning desert candle. This annual is named for its inflated, tapering stem which resembles a candle. Candles often appear in profusion along roadsides in the Mojave Desert.

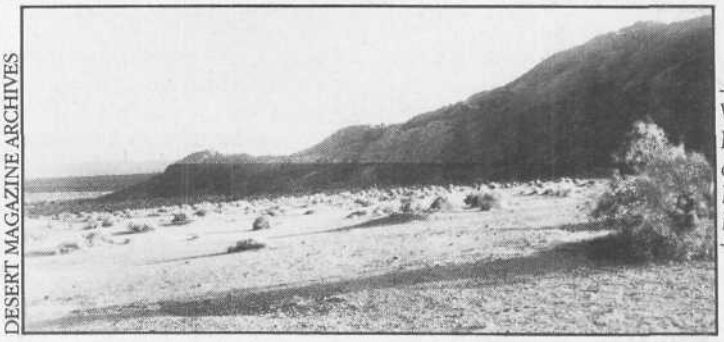
❦ ❦ ❦

**It would take volumes to discuss all the descriptive, bizarre, humorous, logical and illogical names of wildflowers. In fact, there are thousands of interesting names in the** deserts of the southwestern United States alone. A number of wildflower books are available, some of which include derivations of the common names. You can often learn interesting details about a wildflower's growth habit, flower, fruit or early uses just from its common name. Also catchy names are easier to relate to and communicate about, and easier to remember. It has been estimated that even the best botanists can only recall 5,000 plant names from memory, so don't feel too badly if you can't remember them all.

# SHIPS
## That Pass in
# DESERT SANDS

MOST DESERT dwellers are familiar with an old Indian legend about an ancient vessel that came floating like a great bird with white wings into the Coachella Valley basin now filled by the Salton Sea. Chronicles of 17th Century Spanish pearlers, accounts of grizzled prospectors, evidence uncovered by an early Imperial Valley farmer and even a contemporary weekend camper have reinforced the possibility that the Indian legend may have been based on fact.

But first, how could it have happened? How could an ancient vessel, be it a Viking galley, Spanish pearler or pirate raider, lie buried in the sands of the Colorado Desert of Southern California? Did the legend arise from a drugged dream produced by native hallucinogens? A misty mirage? A cover for a jewel thief? A hoax?

DESERT MAGAZINE ARCHIVES

*Waterline of ancient Lake Cahuilla can be clearly seen from Highway C-86 near Pt. Travertine.*

Were it not for fossil evidence of ancient seas and the fact that the Colorado River ran amuk in 1906 to create the Salton Sea and prove once and for all that seas can appear overnight, the old Indian legend would sound less plausible. Countless transitions from sandpit to sea appear to have occurred in the past. Some scholars contend that the Gulf of California once extended as far north as Banning and as far west as the present Yuha desert, where vast petrified oyster-shell beds intrigue desert wanderers today. Others claim that these seas were fresh water ones caused by the Colorado River cutting new troughs into the below-sea-level Salton Sink. Tiny fresh water shells left from an ancient Lake Cahuilla (no relation to the present lake of that name) and primitive Indian fish traps along the base of the Santa Rosa Mountains testify to this. Probably both theories are right, the water invasions occurring at different epochs.

A song recorded in the 1920s by an anthropologist studying the Seri Indians on Tiburan Island in the Gulf of California refers to another mysterious ship. This once-murderous tribe preserved its history through songs passed on for generations. The story line of one tells of the "Came From Afar Man" who arrived in a huge boat containing men with yellow hair and a woman with red hair. The strangers remained on the island for many days while the men hunted with arrows and spears. One man, their chief, remained behind with the woman. After the hunters returned with their game, the boat departed the land of the Seris and was never seen again. Could it have been caught between freak tides where the Colorado River met Gulf waters, and then been shunted through a rampaging canal into a temporary sea flooding the Colorado Desert?

In the late 1960s, I interviewed Myrtle Botts, a librarian from the picturesque old mining town of Julian in San Diego County. An amateur botanist, Myrtle was one of the founders of the popular wildflower show that attracts throngs of visitors to Julian each year. On a weekend camping trip in 1933 to search for new species of desert wildflowers, the Botts family camped in the vicinity of Agua Caliente Springs. While Myrtle prepared dinner, a semi-literate prospector arrived to replenish his water supply. The Botts invited him to join them, hoping he could enlighten them about remote areas where they might find uncommon desert flora.

Instead, mellowed by the scent of a savory stew bubbling over the campfire, the garrulous old prospector told them of a strange ship he had seen sticking out of a canyon wall a few days earlier.

Unbelieving, but still curious, the Botts traveled on the following day "yonder up the canyon" as directed by the prospector. When they could force their old Ford no further, they set up camp and then hiked along the floor of a narrow defile until the grade became so steep and rough, they had to rest.

Myrtle saw it first. Jutting out of the canyon wall over their heads was the forward portion of a large and very ancient vessel. A curved step swept up from its prow. Along both sides of the vessel were clearly discernible circular marks in the wood, possibly left by shields which had been attached to the vessel. Near the bow on one side of the ship were four deep furrows in the wood. The craft was high enough to hide its interior from the Botts' view, and the side of the canyon was too steep for them to scale.

Taking note of all landmarks, the Botts hiked back to their car. Almost the moment they emerged from the canyon, they were thrown to the ground. As they clutched the earth in panic, they watched their camp shaking itself to pieces. When the accompanying rumble finally ceased, they gathered up their scattered belongings and raced back to Julian.

The earthquake had been a severe one, causing extensive damage all the way to the coast. But, as in the case of most natural disasters, it was soon forgotten. Not forgotten by the Botts, however, was the strange ship in the desert.

A preliminary search in her library confirmed Myrtle Botts' impression that the vessel most nearly resembled an old Viking ship. Knowing that most people

by CHORAL PEPPER

would doubt her sanity if she told the story, she decided to return to the site and photograph the craft to support her disclosure.

The Botts again set forth to camp in the desert, equipped this time with a camera. Once again they hiked up the steep canyon, but when they reached the spot where previously they paused to rest, their passage was blocked. Tons of unstable earth from the mountainside had fallen into the canyon, shaken loose by the heavy trembler. There was no sign of the ship. Discouraged as they were, the Botts had to be grateful that they had escaped the catastrophe. Along with the ship, they would have been buried alive.

WAS THIS THE ancient vessel in the song of the Seris, the ship carrying Vikings into unchartered waters in a strange land? Santiago Socia might agree. He was a Mexican with a quick temper who had fled from the law in Los Angeles and escaped to the border town of Tecate. There, while awaiting the arrival of his wife, Petra, who was to follow him, he heard about an *olla* filled with gold buried about forty kilometers northeast of Tecate, above the border. Santiago waited for Petra to arrive, then set forth alone to capture the treasure, chancing the trip across the border. He returned a few weeks later with no *olla* filled with gold, but bearing a souvenir disc made of metal which Petra ever-after used for a griddle to heat her tortillas.

Santiago's story, which became well-known around Tecate, described an ancient ship projecting from a canyon wall in a remote area of the desert northeast of Tecate. The bow of the ship was curved and carved, like the long neck of a bird. A series of large, round metal plates were attached to the side of the ship. Santiago often displayed Petra's griddle to prove his story, but since no treasure appeared to be connected with the ship, his listeners speculated over its origin, but didn't bother to visit it.

Was this the Viking ship seen by the Botts?

Of lost pearl ships that purportedly ran aground in the desert, the most likely legend concerns an expedition led by Captain Juan de Iturbe.

In 1615, Iturbe departed San Blas with three ships assigned to a pearling mission off La Paz. Six months later, with his ships laden with pearls, he prepared to return to San Blas. Within an hour after his departure, the ships were attacked by the Dutch corsair, Joris van Spielbergen, who promptly captured one of the ships and removed its cargo of pearls. Iturbe dispatched the other ship to warn the overdue Manila galleon of the corsair's presence, then fled in his own ship to the north. The corsair elected to chase Iturbe, knowing that eventually he would trap him at the head of the Gulf.

However, when Iturbe reached the end of the Gulf, he found that it narrowed into a wide channel. He sailed into it on the tide and, to his amazement, found himself on another large sea.

Charts at that time showed clearly that Baja California was a peninsula and not an island, but there wasn't a naval officer alive who didn't secretly cherish the idea that previous explorers were mistaken and the legendary Strait of Anian actually existed to provide passage from the Gulf to the Pacific Ocean.

Convinced that he had found it, Iturbe sailed north and then around the mountains to the west. At approximately 34 degrees latitude, which is the present site of the Salton Sea, he found his passage blocked. Other than a river entering the sea, there was nothing but desert sand, foothills and distant mountains.

Disappointed, he turned south, but the wide channel through which he had entered from the Gulf was now nothing more than a small stream, barely large enough to permit passage for a longboat. He turned back toward the north. By then the river that fed the inland sea had vanished. He was landlocked. When the ship ultimately ran aground, Iturbe abandoned it with its valuable cargo of pearls, hiked back to the Gulf, and with his crew eventually made his way back to Mexico.

ANOTHER CHRONICLER of desert lore, explorer-writer Harold Weight, tells of a first-hand interview with an old-timer who had found remnants of a lost ship. These pieces were discovered in 1907 on a ranch in Imperial Valley where one Elmer Carver, then a boy of seventeen, worked for a farmer named Nels Jacobson. The farmer had gone to Los Angeles on a business trip and had hired young Carver to guard Mrs. Jacobson and keep an eye on the ranch. During this interlude, the lady revealed the truth about some hog pens that had aroused the boy's curiosity. Made of planks two to three inches thick, eighteen inches wide and up to thirty feet long, they were fastened by iron bolts through holes bored into the planks, rather than nailed together as was customary. Carter couldn't imagine why such fine timber would have been hauled into the valley, nor why it would be used for hog pens.

Mrs. Jacobson then explained that the planks had come from an old boat that lay partially buried in a hill behind the house. When Carver investigated, he found additional immense timbers, along with ribs of the boat, still in the sand. As far as he could tell, no iron had been used in the boat's construction and the timbers were so hard they appeared to be petrified.

As he gained Mrs. Jacobson's confidence, she further confided that an iron chest filled with jewels had been buried inside the boat. One of the jewels she displayed, a red ruby, was worth more than all of the other jewels together, she believed. Among the other jewels were emeralds and a golden crucifix set with sapphires. The real reason for Jacobson's trip, Carver learned, was to consult with a lawyer and a pawnbroker who were conspiring with the Jacobsons to sell the jewels.

When Jacobson returned to his ranch the following week, he had no further need for Carver, who left the area and never saw him again.

In his research, Weight discovered an historical account about early valley settlers. One item referred to Nels Jacobson, "a well-known Imperial rancher who had come to Imperial with $4,000 and had left seven years later with $137,350."

Perhaps this gentleman farmer was the only one to have profited by a ship that passed in the desert.

Not all buried ships have remained unidentified, however. In 1940 Randall Henderson, founder of ***Desert*** Magazine, made a trek to the delta between the Colorado River and the Gulf of California to investigate reports of a rusting hulk partly buried in the silt of a channel long abandoned by the fickle waters of the Colorado. Although little more than ribs remained, there was enough evidence to definitely identify it as the *Explorer*, a 56-foot stern-wheel steamer built by the U.S. War Department in 1860 to accommodate a Colorado River exploration conducted by Lt. Joseph C. Ives of the U.S. Topographic Engineers (see related article, page 46). The *Explorer* was knocked down in eight sections and shipped by boat to the Isthmus of Panama, thence overland to the Pacific, again by boat to San Francisco, and finally to the mud flats at the mouth of the Colorado River where it was reassembled.

It was the reconnaisance by this ship to the present site of Hoover Dam that first proved the Colorado River navigable. After the expedition, the *Explorer* was sold to Yuma rivermen and used to haul wood until it broke from its moorings one day, floated downstream and disappeared. Seventy-nine years later it was found by an aged Cocopah Indian, whose report initiated Henderson's trek.

And so they lie, some found and some still missing, elusive testimony to a romantic history, those mysterious ships that passed in desert sands.

# the LAVA CAVES of CENTRAL

NEARLY EVERY vista in central Oregon recalls the land's flaming origins, forged and shaped by ancient volcanic activity. The evidence abounds: immense fields of solidified lava flows, long dead volcanic craters and mountains of obsidian, all hinting at the awesome forces that once bent and tortured the desert landscape in a dim and distant epoch.

But there is an aspect of Oregon's volcanic history which is not as readily evident as the buttes and rimrock which dominate the skyline. For scattered throughout the high desert of central Oregon, just beneath the surface of the land, lie cave systems and isolated caves known as lava tubes. To study and explore these underground tunnels is to discover one of the most fascinating products of the desert's volcanic past.

Basalt, the igneous rock that is so evident here, and indeed it is everywhere, chunks of it scattered among the sagebrush and juniper, is the vital ingredient in the making of a lava tube as it is the only rock fluid enough in its molten state to permit the tubes to form. This basaltic flow of low viscosity manifests itself in the form of a smooth, wrinkly lava known as pahoehoe. Flows of molten basalt also come in more viscous varieties, blocky and rough AA, which are not conducive to lava tube formation.

Lava tube beginnings go far back in time, as far back as 12 million years. Imagine basalt, deep in the earth, under temperatures as high as 2,000 degrees Fahrenheit which render it into liquid form, contained in subterranean pools and chambers. Imagine this molten rock making its way up through the earth, forcing aside and melting overlying rock as it rises, oozing out onto the earth's surface by way of a vent. The lava flows along, in a straight line, meandering, branching off into forks, following the lay of the primeval landscape.

Now the first of many natural forces which shape and mold a lava tube begins to act upon this river of liquid rock. Exposed to the cooling air, the lava begins to harden, even as it continues to move. Eventually the outer surface of the flow hardens solidly and ceases its forward progress. But the innermost lava, being insulated by the slowly solidifying outer crust, continues to flow. Finally, when the supply of lava from the vent is exhausted the still liquid rock in the flow's center drains away, leaving a hollow tube behind.

This then is the process that initially forms a lava tube cave. But the process is far from complete. If you can picture a newly formed empty tube of rock, a visit to some lava tubes will make plain the changes that the relentless forces of wind and water have produced over the ages.

A number of well formed and easily accessible lava tubes can be found just a short drive south from the city of Bend, reached by gravel roads off of Highway 97. These caves, located on the eastern fringe of the Deschutes National Forest, provide excellent examples of lava tube formations and phenomena.

The entrances to these lava tubes are not, as one might logically surmise, through the original entrance, where lava drained away, but through cave-ins, termed collapses in the jargon of geologists.

As soon as a lava tube is formed, it is attacked by weathering. Wind and water wear away at the outer surface of the tube and make their way through the entrance to erode the interior, constantly weakening the cave. Through the intervening centuries subsequent lava flows may bury the tube, sealing it completely underground. But the weathering process never ceases and eventually the lava surrounding the tube is worn so thin that a section will collapse of its own weight, creating an opening to the outside. The size of the opening may vary from a small skylight only a few feet in diameter to a very large collapse 100 or more feet long which not only forms an opening, but fills in a considerable portion of the tube with rubble.

Wind Cave, nearly 4,000 feet long and one of the largest tubes in the Bend area, provides a graphic example of the power of the weathering process. Entrance to the cave is gained through a rather small opening at one end of a long, narrow collapse. This unimposing entrance leaves a cave explorer unprepared for the sight inside. This tube opens up to almost cathedral-like proportions and the floor is covered with massive piles of boulders, some reaching the nearly sixty feet to the ceiling. These boulders, eroded from the ceiling by wind and water action, are termed breakdown and make exploring this cave a strenuous proposition. Another example of the toll taken here by weathering is the skylight encountered a short distance from the entrance. Named Dark Hole Skylight, it provides a welcome shaft of sunlight in the gloom of the cave. Wind Cave derived its name from the sound of the wind blowing between the skylight and the entrance.

While Wind Cave has a ground level entrance as well as a skylight, a skylight may be the only means of entry into some lava tubes. Skeleton Cave is just such a tube. Although the Forest Service has constructed a stairway through the skylight to provide a safe means of descent, some of the cave's earliest visitors did not have this luxury and paid the consequences. In the late 1920s a number of prehistoric bear and horse fossils were discovered in the cave. Their presence was probably the result of the animals blundering through the skylight and being killed from the fall or starving to death after being unable to escape. Skeleton Cave's name refers to the discovery of these fossils.

WHILE THE INITIAL flow that creates a lava tube is always pahoehoe, cave floors of sharp, jagged lava known as AA are not uncommon. This is the result of secondary flows of AA emanating from the same vent that the tube-forming pahoehoe flow originated. These secondary flows not only line the cave floors with rough lava but also fill in the original tube to varying degrees.

Such an occurrence is found in Skeleton Cave. Secondary flows of AA have coated the floor, filling in portions of the cave in the process. The impact of these secondary flows on lava tube terrain becomes evident as one proceeds from the entrance or head, to the end, also known as the foot. Beginning at the head of Skeleton Cave there is plenty of room to walk upright. Initially, penetrating the depths of this 3,000 foot long tube is a matter of negotiating piles of breakdown and fighting the ragged floor which constantly grabs at your boots. But as you make your way further, the ceiling becomes lower and lower, although in reality it is the floor that is becoming higher. Combining this with the breakdown makes for some tight belly-crawls along the way.

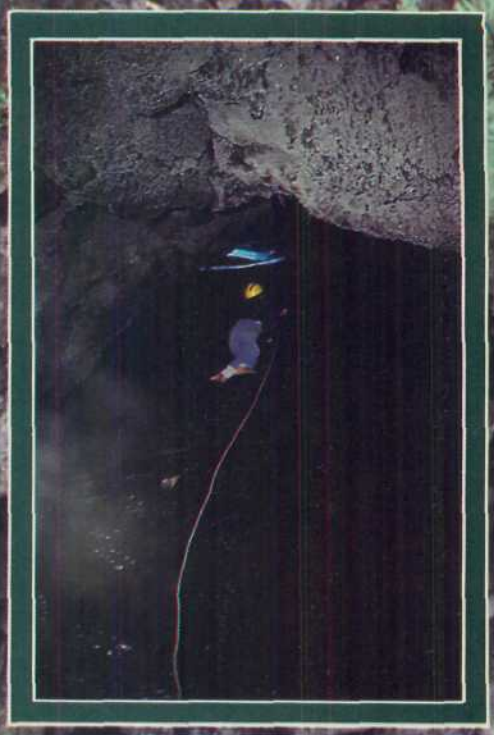
Skeleton Cave also has a side tube which formed where a tributary lava flow intersected the main flow. In addition, a second tributary streamed over the top of the tributary tube, creating an "upper level" lava tube.

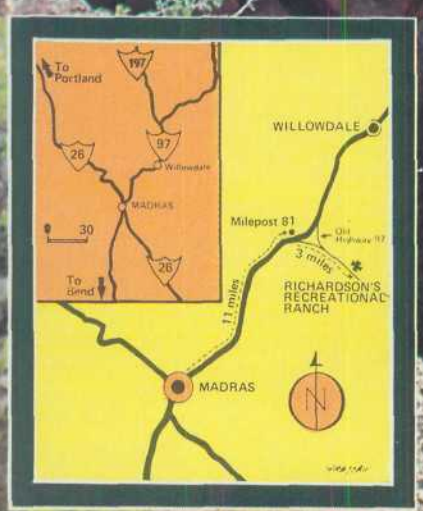
Another pervasive element found in lava tubes and especially in nearby Boyd and Bat Caves is sand. Sand along with sticks, leaves and other detritus is borne by wind into the caves through collapses, skylights

***(Right) This small unnamed tube located near Charcoal Cave has yielded much archeological evidence of occupation by the aboriginal inhabitants of the region. Mountain climbing ropes (insert, top) are required to safely descend the steep, perpetual ice slope in Arnold Ice Cave. Much of Boyd Cave (insert, bottom) has been filled in with sand, which filters in through the entrance and roof fractures.***

article and photographs by **JIM YUSKAVITCH**

# OREGON




To Portland
197
97
26
Willowdale
MADRAS
30
26
To Bend
WILLOWDALE
Milepost 81
Old Highway 97
3 miles
11 miles
RICHARDSON'S RECREATIONAL RANCH
MADRAS
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N 15

***Sunlight streaming in through the entrance of Wind Cave reveals huge amounts of collapsed rock in the cave's interior.***

and fractures. Particularly curious are the large mounds of sand, occasionally encountered, piled against the tube's wall. A closer inspection will inevitably reveal a crack in the wall. Placing a hand in the crack reveals a light breeze making its way from the outside and solves the mystery of the sand piles. Sand, over a long period of time; is sifted into the cave from the outside through this crack, slowly accumulating against the wall.

There is a surprising amount of color in a lava tube. Not brilliant but subtle and muted. Blue-grays of lavacicles, where dripping lava from the ceiling hardened into features resembling tiny stalactites, compete with the whites of heat-glazed basalt and slowly crystallizing minerals. Deep blacks and rusty reds streak the gray, blocky walls.

Because of basalt's insulating properties, lava tubes maintain a constant temperature of around 40 degrees Fahrenheit throughout the year. But under certain circumstances a cave will become cold enough to maintain frozen water the year round, creating a special kind of lava tube — an ice cave.

Arnold Ice Cave has just these special circumstances, a large enough entrance to provide good ventilation with the opening oriented so as to avoid the direct rays of the sun. A thick roof coupled with basalt's insulating value also plays a prominent role. Because of these factors, water seeping into the cave from rainfall and snowmelt remains frozen throughout the year, resulting in a substantial accumulation of ice. This ice was very likely used by the early Indians of this area as a source of constant water. In the early years of this century, the ice was mined commercially and sold in Bend during the summer months to supply the city's refrigeration needs. The Forest Service has constructed a stairway into the cave which has long since fallen away and been covered by encroaching ice, requiring the use of mountaineering ropes to descend the forty feet down a thirty-degree ice slope to the bottom of the cave. This lava tube was initially much larger but has been filled in considerably by ice and breakdown.

THE ORIGINAL discoverers and utilizers of these lava caves were the aboriginal people who once inhabited this region. Wherever the caves offered shelter and sanctuary, they were probably occupied to some extent. These long-gone people have left behind rich archeological evidence as well as tantalizing mysteries.

One such mystery is Charcoal Cave, a lava tube which has suffered so much rock collapse that most of the cave is filled in, rendering it more of a rock overhang than a bonafide lava tube.

The puzzle of Charcoal Cave lies on its floor in the form of a ten- to sixteen-inch deep layer of charcoal, representing a tremendous amount of wood burned by some forgotten people for reasons unknown. One piece of wood taken from the cave was determined to have been cut and burned around 1370 AD, although initial use of the cave could go much further back in time. Nothing, such as utensils, hearths or arrowheads which would indicate human occupation has been found in the cave, furthering the mystery of the huge fires and their purpose.

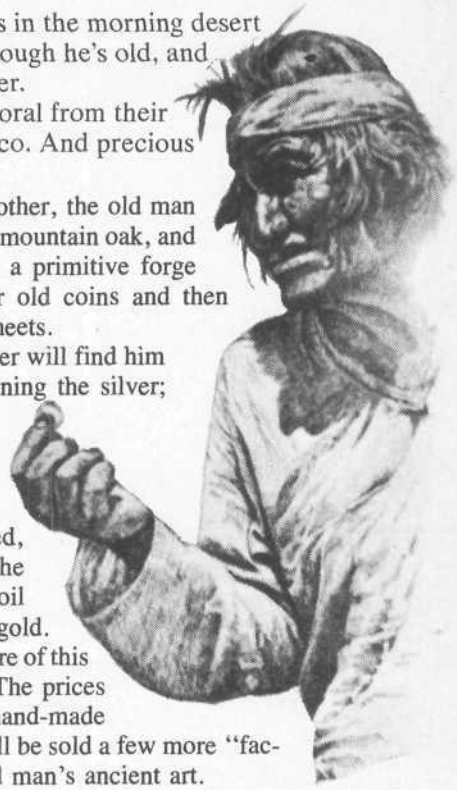
Exploring a lava tube is the best way to learn about and experience these underground tunnels. It doesn't take a lot of expertise to safely investigate them, just a few precautions and some common sense. The standard rule for hikers and campers — don't go alone and leave word as to your whereabouts and return time — goes doubly for the lava tube explorer. Warm, thick clothing is also a must, not only for warmth but for padding against the uneven and sometimes hazardously ragged rock. A pair of heavy boots are needed for foot protection and support in the harsh lava tube terrain. And a helmet or hardhat is an absolute essential as it is nearly impossible to explore a lava tube without bumping your head with regularity.

Finally, three sources of light — flashlights with extra batteries and bulbs work just fine — along with candles and matches for emergencies are standard, required gear. In the absolute darkness of these caves, one wants to have plenty of spare light sources. Making your way out of a lava tube with its breakdown, side tubes and crawlways without the benefit of a light would be a long and unnerving experience. But in spite of the fact that going down into these dark tunnelways, once antediluvian rivers of molten rock, can be exhausting and dirty work, those who make the effort will be rewarded with some astounding sights in a remarkable underground world.

# A SHORT HISTORY OF NATIVE INDIAN JEWELRY-A VANISHING DESERT ART

Somewhere West of Denver, and South of the Great Salt Lake, an old man sits in the morning desert sun, patiently grinding bits of coral and turquoise into tiny hescke beads. Although he's old, and as wrinkled as the canyoned hills that surround his pole hogan, his craft is older.

When the Spaniards, relative late-comers to the Indian country, brought the coral from their sea voyages, silver had long been mined in the hills, or traded out of old Mexico. And precious turquoise and bits of shell had been tribal currency for centuries.



Later this day, or perhaps another, the old man will build a hot fire of pinon and mountain oak, and with crude leather bellows and a primitive forge smelt down lumps of silver or old coins and then hammer them into thin silver sheets.

Cold nights of the desert winter will find him before his fire, patiently fashioning the silver; filing, shaping and soldering until he has formed tiny intricate fixtures and ornaments to complement the summer's hescke beads. When he's finished, astute collectors will count the product of his patient ancient toil worth more than its weight in gold.

He will die soon, and a bit more of this ancient art will die with him. The prices will rise a bit more for the hand-made pieces, and the unsuspecting will be sold a few more "factory" pieces in place of the old man's ancient art.

Of such sad events are values made. And the wise person today buys value with beauty when possible.

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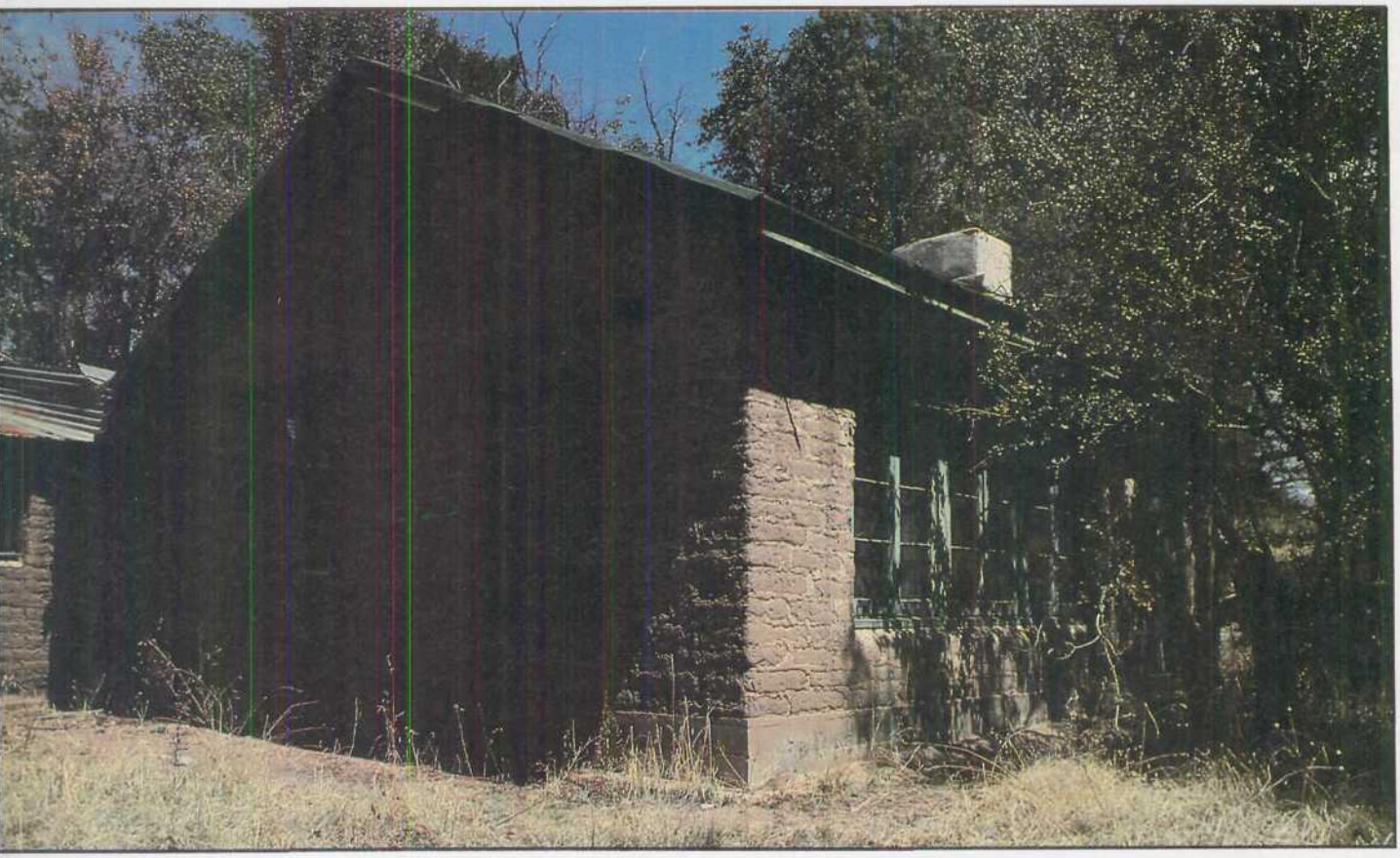
# CAMP RUCKER

## The Army's Forgotten Outpost

COURTESY OF RALPH VELASCO COLLECTION



SPRINGTIME HAD reduced the normally treacherous waters of the White River in southeastern Arizona to a thin stream dotted with tiny pools. Within the pools scattered oak leaves, caught by gentle breezes, floated in circles like miniature sailboats. As we crossed the river bed, using storm tossed rocks and boulders as stepping stones, I wondered what surprise my host had next in mind.

Glenn Boyer, co-author of Josephine Earp's book, *I Married Wyatt Earp*, was treating me to a tour of backcountry historic sites that had taken him a lifetime to discover. Earlier in the day we had visited Johnny Ringo's grave, deserted

***Article and photographs by BUDDY NOONAN***

***(Top) An extremely rare portrait of 2nd Lt. John Anthony "Tony" Rucker. Amazingly still intact are (above) the windows and roofs of many of the buildings at Camp Rucker. Free roving ranch dogs deterred most vandalism over the years. Rustic and picturesque (right) is the setting of Camp Rucker's stable and corral area.***

stage stops and the obscure, isolated Clanton ranchsite of Tombstone fame. "Now," he said, "I'm going to show you the best spot of the day. Look through those trees. Do you see it?"

What I saw was unbelievable. There, through the dense oak and pine was what appeared to be a very old Army outpost. A parade ground was flanked by numerous adobe buildings, their roofs still intact. "Its name is Camp Rucker," Boyer said, anticipating my question, "and it was named after a Lieutenant John Rucker who died here in a flash flood during the 1870s. That's all I know."

Closer inspection didn't turn up many clues. However, several buildings such as a bakery were well marked with what appeared to be Forest Service signs.

Skillfully carved, they, along with a bronze commemorative plaque and Camp Rucker's generally well-preserved appearance, indicated that someone once, or currently does, have an interest in the old outpost. Had it once been a state park and then deserted? If not, what was the story. I had to find out.

Numerous letters and phone calls proved fruitless. Even the knowledgeable Fort Huachuca Museum offered no more than a short paragraph in Will Barnes' book, *Arizona Place Names*. That said little more than what Glenn Boyer had told me. So it was sheer chance and great luck when at random, I happened to phone the U.S. Forestry Service in Douglas, Arizona. Did they know anything about about Camp Rucker I asked. "Did they know anything," the receptionist replied, "The man that knows more than anyone else on the subject is standing here right now." Ralph Velasco had spent a lifetime gathering Rucker material and maintaining its grounds. He agreed to meet me at Camp Rucker the following week.

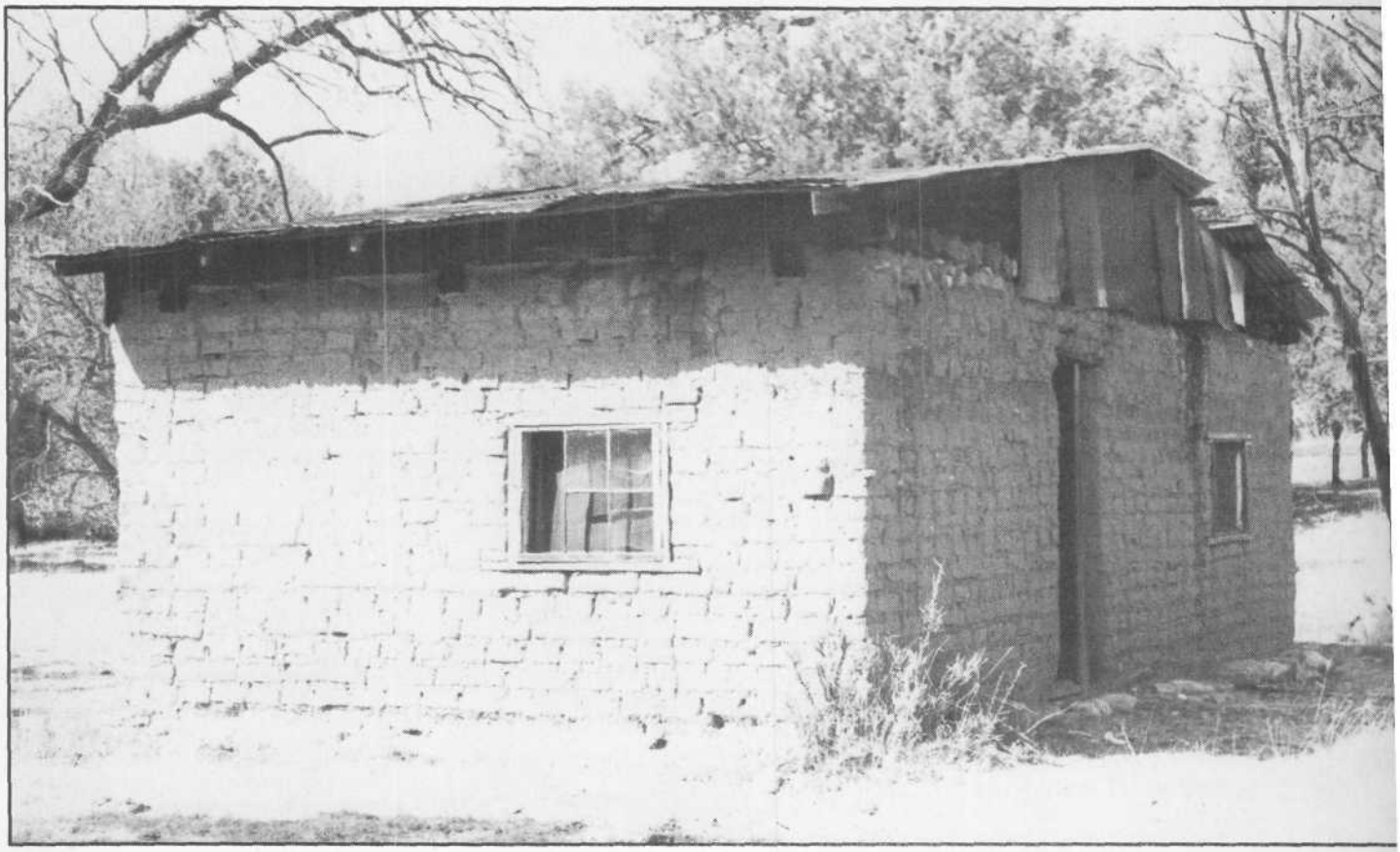
HE WAS ALREADY there when I arrived. He had with him rare documents and photographs detailing the little-known history of Camp Rucker. Unlocking the main gate, then leading me along the original cavalry road, Ralph talked. As he did the area seemed to come to life again, peopled by those who had lived here so many years before.

The year was 1878. Indian warriors, including a then little-known renegade named Geronimo, were causing havoc and destruction throughout the New Mexico and Arizona Territories. Supply camps were needed to reinforce a network of U.S. Army forts. These pressures caused Camp Supply (later to become Camp Rucker) to be established on April 29, 1878. It was never officially dedicated. Stationed under two officers were 45 men of Company "C" of the 6th Cavalry. Also in and out of camp were two companies of Indian Scouts under the commands of 1st Lt. Austin Henely and 2nd Lt. John Anthony "Tony" Rucker. Rucker, 27, was extremely well liked by the Indians. Communication with other camps and forts was maintained with a tripod-mounted heliograph, a device which, by the use of mirrors and a shutter, turned the reflection of the sun's rays into Morse code.

The camp never saw much action, Geronimo and other Indian leaders apparently skirting it for easier pickings elsewhere, but a full-scale attack surely would have been considered had the renegades known what was going on. Camp Rucker had a major problem, a soft underbelly, and that belly contained booze.

Life at the post, as revealed by the old records, reads like episodes from TV's "'F' Troop." In fact, during one period a Company "F" was stationed there. For example, read the official charges against Private John T. Winn: "(1) Pvt. Winn while on guard duty allowed his prisoner to become drunk. (2) Pvt. Winn also was so drunk that he was unable to perform his duties. (3) Pvt. Winn did feloniously, and with intent to kill, assault Indian Scout Corporal Honeycone, discharging a leaden bullet from a U.S. Army Colt revolver at him without cause."

Indeed, drinking seems to have been the main problem at Camp Supply as witnessed by the following official notice



***Still a mystery to Camp Rucker historian Ralph Velasco is this adobe building across from the Post Trader's. The purpose of its construction remains unknown. There are no windows or doors in the far walls.***

from the Post Commander to the Post Trader: "Owing to the many cases of drunkenness at this camp, it is hereby ordered that in the future not more than three drinks of intoxicating liquor be sold or given to any enlisted man in any one day by the Post Trader or his employees, at least two hours occuring between each drink." Even with the three drink maximum, the cavalrymen continued to stay drunk. They staggered through their duties, did poorly at the firing range, and deserted. Finally, the Post Surgeon, Dr. W.W. Douglas analyzed the locally-made liquor and found it unusually high in alcohol content. His report concluded by saying, "The whiskey is certainly *very inferior* and must have an injurious effect upon anyone who used it."

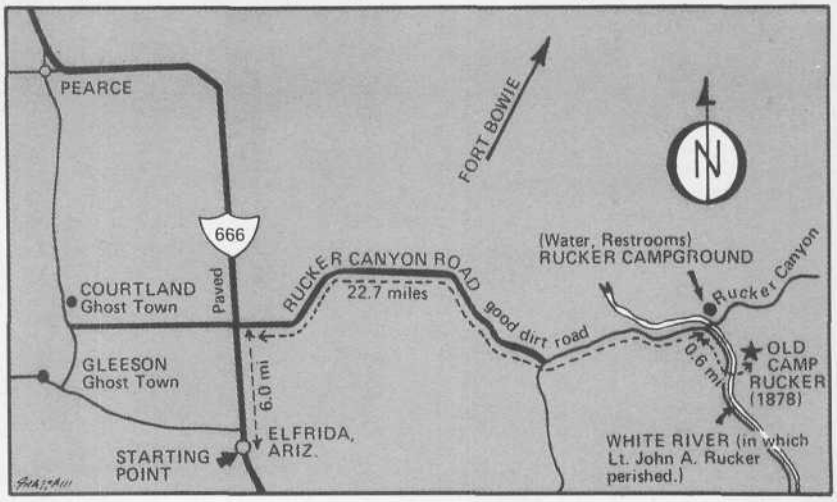
Sobriety for everyone at Camp Supply came suddenly on July 11, 1878 with the onslaught of an unusually heavy storm. As rain waters rose in the White River which fronts the camp, John Rucker and his pal, Austin Henely, attempted to wait out the storm with two civilians at a nearby off-post saloon. During what they felt was a lull, all four attempted to cross the raging river back to Camp Supply. The mule-mounted civilians were successful, Henely and Rucker were not. They committed the fatal error of riding side-by-side, and the boulder-laced flash flood knocked them off their horses. They disappeared under the swirling, murky waters and weren't seen again until discovered dead a mile and a half away by Indian Scouts the following night.

Camp Supply's community was stunned. Reflection of that can be seen in a telegram sent by the Post Commander to Rucker's brother-in-law, General Phillip Sheridan, which reads in part: "We are crushed with grief. Tony's (Rucker's) Indians seem awestruck. They were perfectly devoted to him. I know of no one more universally liked and esteemed. I send the remains of both into Bowie at once." Austin Henely and John Rucker were buried at the post cemetery near Fort Bowie, Arizona Territory. In honor of the Lieutenant who was so well liked, the name of Camp Supply was changed to Camp Rucker on November 30, 1878.

EVENTS LEADING to the closing of Camp Rucker took place ten months later. Previously, rations were given only to Indians at the San Carlos Agency. On October 6, 1879, an order was issued allowing rations to *all* Indians enroute to the Agency. Seeing an advantage in this, which in part meant 1,750 pounds of fresh meat for his men, Chief Juh and 125 of his renegade Apache followers "surrendered" their forces at Camp Rucker. Spokesman for Juh, who stuttered, was the Indian called Geronimo. In reality Geronimo would never truly surrender until 1886 in Fort Bowie after a long and bloody career. But with the action of Juh and Geronimo, the need for Camp Rucker seemed ended. On November 22, 1880, Captain MacGowan signed an order relinquishing his command, and the troops departed.

Velasco went on to tell me what happened after closure: "There was one slight revival for the camp as a supply depot in 1886, but it was downhill from there," he said, explaining that farmers living at Camp Rucker over the years contributed heavily to its present well-preserved state. Free roving, loud barking ranch dogs proved a deterrent to vandals, but the reinforcement of sagging walls, repair of roofs, clearing of footpaths and erection of sign markers had all been done by Ralph.

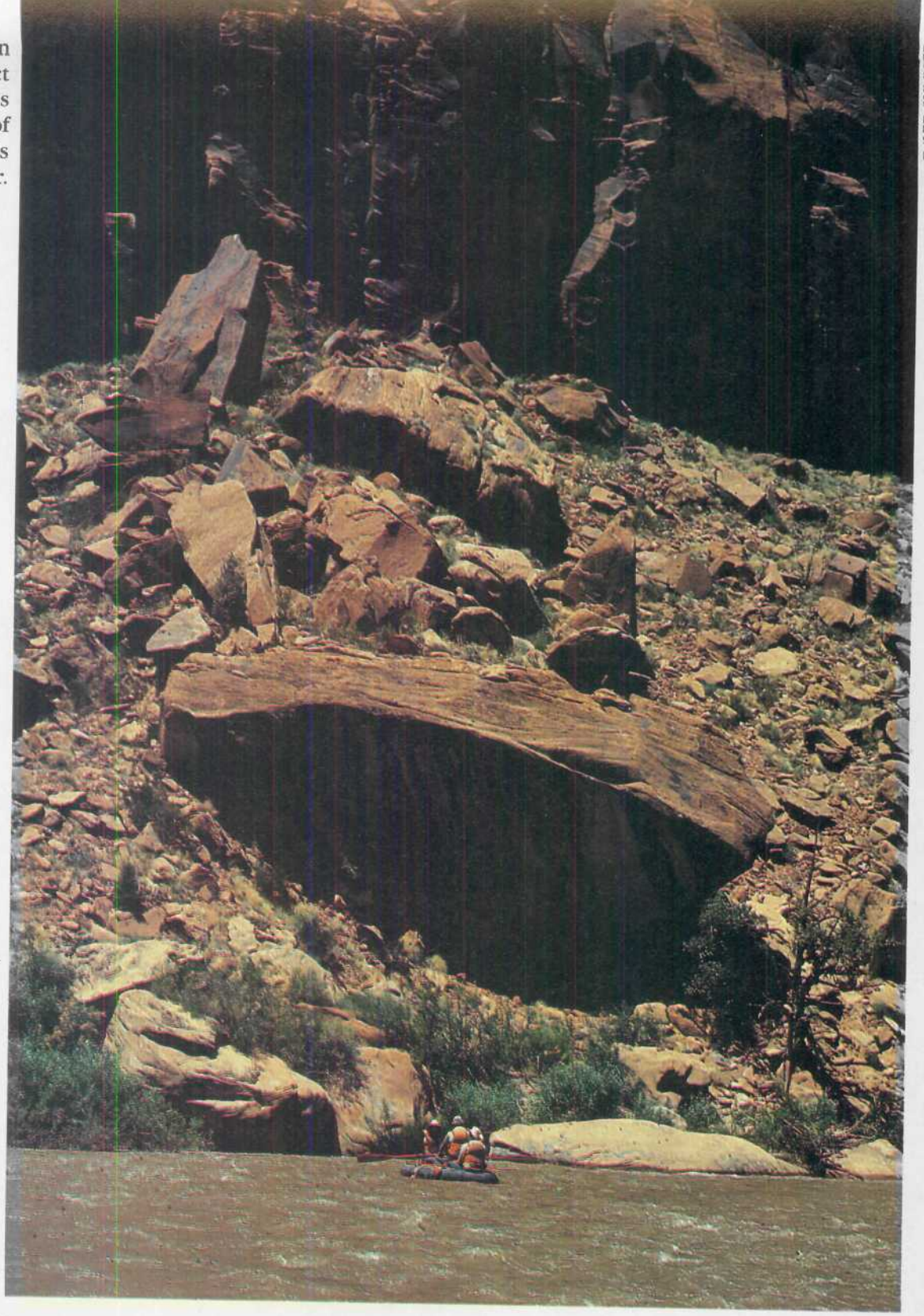
The determined Forest Service fire control officer had taken it upon himself to tackle the entire project singlehanded. A native of the area, he can't explain why he fell in love with Camp Rucker, but he did, and, in 1960 while stationed here, decided to repair the site as best he could. Financing the project out of his own pocket, he secured documents and photographs from Washington, D.C., then proceeded to give the outpost a facelift. Lumber and other materials were donated by nearby ranchers. Learning that the Camp had never been officially dedicated, he organized a dedication day in 1973 at which time a plaque was set in place commemorating the Camp's significance. History is everywhere at Camp Rucker. Ralph picked up a metallic object, examined it, then dropped it back to the ground. It was an empty rifle shell casing, one of many left scattered at the Camp's firing range over a century ago. One hundred yards away, portions of an original iron military target remained in the branches of a tree, long since grafted into it by nature. On a hillside, almost invisible due to heavy brush, three solitary graves were marked simply as "An Unknown Arizona Pioneer." A Civilian Conservation Corps crew passing through the area in 1936 discovered human remains in shallow graves, reburied them, and constructed epitaphs. Ralph believes that they could very well be Camp Rucker cavalrymen.




***A dedicated preservationist, Ralph Velasco expresses his hopes that Camp Rucker will someday become an historic state park.***

Heading back through the Camp's compound, we passed by its bakery, stockade site, enlisted men's quarters, officers' quarters and hospital. After re-crossing the White River where John Rucker had met tragedy, I looked back. I could see the entire Camp in miniature through dense oaks, framed by magnificent mountains. And, as breezes rustled leaves overhead, it was easy for me to understand why Ralph wants to see the Camp preserved for future generations to enjoy. Perhaps someday his dream will come true. Then, Camp Rucker would no longer be a forgotten Army outpost.

SPECIFICALLY, Velasco, a one-man restoration committee, hopes for the day when all of Camp Rucker's sixty acres might become an official state park. Only then will he feel his work has been accomplished. His next step in that direction is to arrange public hearings and support. Anyone wishing to help can do so by writing Ralph Velasco, 28 Grace, Pirtleville, AZ 85626.



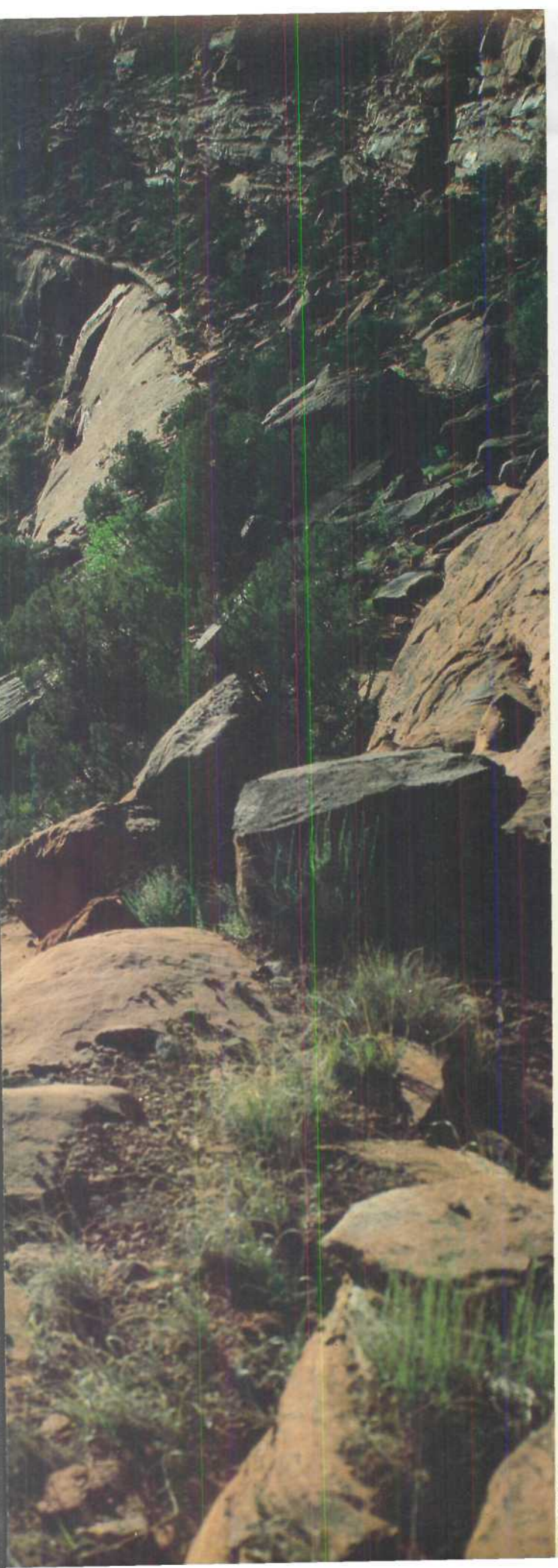
DAVID SUMNER

$250 million federal project threatens security of Colorado's Dolores River.

*Essay by RUSSELL MARTIN*

# RIVER OF OUR LADY OF SORROWS

**We pull our patched and haggard boats ashore and make camp at the gates of the canyon. Haughty sandstone walls rise suddenly, powerfully up at this spot, and the River begins its languid, serpentine course**



beneath the rock. The beach is wide and smooth, pleasantly out of sight of the humped trusses of the Gyp Valley Bridge, out of mind of the flat bench beside it, that being a tangle of rusted sedan bodies, crumbling concrete pilings and thick, shoulder-high sage where we once spent a dreary, dust-driven night waiting with The Professional Boatman for some errant passengers he would haul into and out of the Canyon.

But commerce plays no part this afternoon. We've spent a whole day paddling just from Poverty Flats to this point, taking itinerant time to swim, gawk at petroglyphs and pry peanut butter from the roofs of our mouths. And Moody, the freckled Hawaiian who swells to life like a kind of delighted, de-hydrated surfer when he's back on the water, has spent hours playing in his kayak in every eddy and stretch of rippled current that we've passed.

Tomorrow holds sublime promise. There'll be nothing else to do but float into the last section of the River that remains truly wild, aimless except for that, naked and unconcerned on the brown back of the River.

When dinner is done and our greasy bowls are scoured with sand, the darkness comes on, seems to lay itself down in folds between the Canyon's walls. Someone banks the small fire, everyone shares slashes of scotch. Alan, Montana cowhand and Idaho forest ranger, recites Robert Service — "The Cremation of Sam Magee" and "The Call of the Wild" — corny, sentimental, appropriate. The poems, their maudlin themes and stretched rhymes bright and delightful, are meant to be heard aloud. And borne by Alan's drawl, the words fill the night.

At home now on a derelict farm four miles from the River's southernmost bend, those nights come foremost to mind when I think about the Dolores. Not because there have been so many of them, there have been too few, of course. And not because those times characterize my relation to the River. No, the mass of my contact over the years comes from watching the current from a car window on a highway bound out of the mountains that parallels the channel; it's been pulling Dolores River water out of the kitchen tap, the shower head, through head-gates and into dark furrows in fields. I'm a Dolores River consumer and have been, off and on, all my life.

But it's the River's ceaseless, erratic rush to the Colorado that I hold most important. Not for me, not for the farmers or the people in the towns. We simply ambush the River and borrow its bounty. The important, *essential* River is the teeming thing that trickles, rolls and surges — runs dry — from its high catchbasins through valleys, plains and canyons in search of the low ground that ultimately drops into the sea.

THIS SPARE CANYON AND mesa country that leans against the western face of the Rockies was formed and molded by the work of water and the persistent winds, laying down the ground, the rock, then buffetting it, carving it with the driven air over a span of years so long their numbers are just strange ideas.

In our age, the winds remain determinedly at work, but it's the *absence* of water that marks the critical difference. The plateau country gets little rain, not much snow, and the moisture that does fall rushes into washes, arroyos and canyons before it can be put to work. The fertile ground lies suspended, and dry, above the water courses.

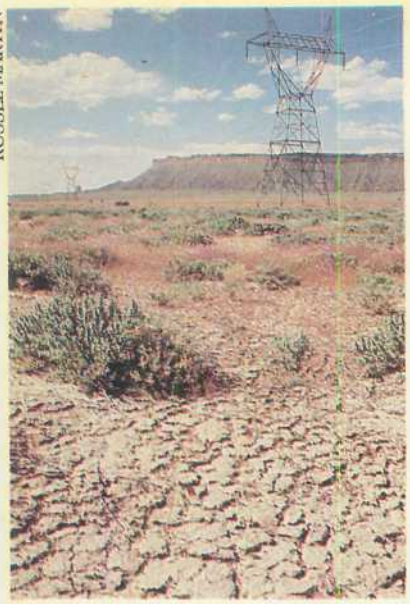
As long as people have lived in this region they have, out of desperate necessity, worked at trapping the water, holding it, putting it to use. The Anasazi, the Ancient Ones, formed check dams at the mouths of washes, built reservoirs to catch water from dripping springs. The water they caught nurtured beans, maize, squash and them, for thirteen centuries.

The first Anglo settlers, aided only by burly teams of horses, sharp shovels and their own strong and straining backs, set to work to divert water from the streams and rivers and to deliver it to their meager crops. In the farmstead country where I live, an irrigation system completed in 1889 still bends Dolores River

AVID SUMNER

Scenic Slick Rock Canyon of the Dolores.

RUSSEL MARTIN



RUSSEL MARTIN

**The bitterest land to benefit is on the Ute Reservation (above). Dry farmers (right) may or may not wish to switch to irrigation.**

water away from its natural course and offers it to another watershed. But these are the last summers for that simple diversion system. Seventy miles upstream from that broad and silent beach, a dam is beginning to rise. And once that mass of earth and rock reaches up and across the canyon, and the River backs up behind it, everything will have changed.

The federally-funded Dolores Project, expected to cost somewhere in the neighborhood of $250 million (figure almost $17,000 for every local resident who may potentially benefit from it), will reduce flows by seventy percent, compared with a maximum of 44 percent that can be diverted now. Lands available for irrigation in wide, arcing Montezuma Valley will nearly double, offering late-summer security for the already-irrigated farms, crop diversity on lands now dry-farmed in pinto beans and winter wheat; offering the first steady, dependable supply of water to the people of the Ute Mountain Ute Reservation since their great-grandparents were shouldered into that bare country in the 1880s.

Everyone wants a piece of the action, the wealth, the moving water. And in that regard, the dam and the reservoir it will hold will become a kind of stingy tank and faucet. The irrigators want cheap, durable water so they can feed us and keep the production credit people at bay; the chambers of commerce eye treatment plants and long-term supplies, imagining shopping malls and subdivisions; the energy giants offer us "energy independence" and a high-tech tomorrow if only we'll give them the water and the rich skin of the land. And the recreationists, people like you and me and The Professional Boatman, want a little water as well, water forced only by its own necessities, loose and free in the canyons.

THE NAME *DOLORES,* SUITS this River, is just right for it, but there's probably no logic in explaining why. I couldn't associate that name with anything else after so long, not a place, not a woman. Nor could another name belong to the River. In English, the sound is gentle, sonorous. In Spanish, it's lovely and clear as a hawk's call.

The full name, longer, never used but not forgotten, is *Rio de Nuestra Senora de Dolores*. River of Our Lady of Sorrows. It was called that first in 1765 by Juan Maria de Rivera, a Spanish explorer investigating the vast bank of land that lay north of Santa Fe. Imagine why he wanted that name, why he chose that image of the *Virgen* to identify this quick, erratic, mountain-born stream.

The Dolores takes shapes, begins its descent and collection of water in two rocky basins high in Colorado's San Juans. The two streams drop quickly through the angled tundra, enter forests of fir and spruce which, in turn, give way to white-barked, shimmering quakies. The River's valleys grow wider, their slopes softened by the timber and grasses.

At Dolores the River abandons its southwesterly course, angles against a low wall that prevents it from spilling into Montezuma Valley, and then turns abruptly north past the diversions and lateral ditches, past farms and houses, beneath a swinging bridge built by a blind man, into the canyons.

In the 190 miles between Dolores and the confluence with the Colorado, the River twists and drops through a series of five canyons, each separated from the next by broad, barren valleys that stretch away to mesas and reclusive buttes.

This desert River, bound by rock, brown and surging in early summer, reduced to stinking pools by fall, is nothing like the quick mountain stream it has grown out of, although its waters and much of its suspended silt are indeed the same, carried from one kind of country down into another.

The Dolores flows, from headwaters to mouth, through awesome, empty, wild country cut out of 25 million years of rock, past fields, farms and frowzy towns, past relics of the hard-rock era in the mountains, among ruins of the last uranium rush below. The River is banked by gravel pits and abandoned cars, lined by roads and highways, spanned by bridges, tripped by diversions, sucked by pumps. But it flows, mindless of the likes of us, committed toward the Colorado.

Nothing stays the same, I know. Not the shape of the land, nor the people upon it. The capricious, crazy River is the most volatile of all, I suppose. Never steady, rising, receding, going dry.

Twenty-three major commercial rafting companies offer trips on the Dolores now, along with numerous pay-me-in-cash operators and scads of quasi-commercial group excursions.

Opinions on whether the River is over-run, hence over-burdened, differ depending on the source. Glenn Sherill, Outdoor Recreation Planner for the Bureau of Land Management's San Juan Resource Area, tells me his Agency (that together with the Forest Service, controls about ninety percent of the River corridor) has no plans to initiate a permit system that would regulate the numbers of launchings. The BLM would probably have a plan for the Dolores on paper, if not already in

force, were it not for the likelihood that the Dolores Project's McPhee Dam may handily erase the need. Boatable releases from the dam will be so sporadic (non-existent while the reservoir fills) that the numbers of river runners will inevitably decrease drastically, perhaps even disappear.

The Professional Boatman, Preston Ellsworth, operator of the Durango, Colorado-based Colorado Rivers-Tours, disagrees emphatically about the need for a management plan. He says that, provided the canyons have water, an effective permit system would mean twice as many people as currently float the river could enjoy excellent isolated white-water trips.

But, says Ellsworth, the completion of the dam will mean "the Dolores will be lost, the latest of Colorado's rivers to be destroyed or compromised." He bristles a bit at my suggestion that perhaps the commercial guides (whose passengers made up about fifty percent of last year's boaters, he guesses) are inadvertently contributing to a loss of another kind — a loss of isolation, of an idea of emptiness, of the back of beyond.

ON JANUARY 3, 1975, THE National Wild and Scenic Rivers Act, that in 1968 had designated segments of ten rivers for protection, was amended to authorize study of 29 additional rivers, the Dolores among them, to determine whether they possessed "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values." But because of the political complications of the pending Dolores Project, the Dolores was singled out from the other 28 rivers for "accelerated study." And, for the purposes of the study, McPhee Dam was considered "in place." If the Dolores was to be deemed eligible for protection it would have to be in spite of (the Bureau of Reclamation argued *because of*) that hypothetical dam and reservoir.

A federally-appointed study team was given a year to investigate all of the River above the proposed reservoir and every mile below the dam to determine its eligibility — much too short a time, the team members generally agreed once the study was complete. Their conclusion: 105 miles of the River below the dam-site should be variously designated as recreational, scenic and wild under the provisions of the act.

Before the study team had announced its recommendations, however, legions of Dolores River Basin and Montezuma Valley residents decided that a potential wild and scenic designation held no good prospect for the area's farmers, ranchers and businesspeople. Despite incontrovertible evidence that the study hinged on the construction of the Dolores Project, a Cortez, Colorado-based group, calling itself the Rio Dolores Group, Inc., shouted the deception that designation would "spell the death knell of the McPhee Dam." Despite assurances from Colorado Governor Richard Lamm, state water officials and Colorado's congressional delegation that its fears were unfounded, the group argued that designation would mean "the drastic curtailment" of local farming, livestock, timber and tourist industries, would result in the condemnation of private lands and would limit river access to the young and able-bodied.

In the midst of the controversy, President Carter included the Dolores Project on his infamous 'hit list' of cost-inefficient and environmentally damaging water projects. Colorado's Third District Congressman, Frank Evans (now retired), who was in basic support of the wild and scenic proposal, vowed in response to block its consideration in Congress until the project was back on track and fully funded. Carter relented, of course. The Dolores Project got a reprieve and the wild and scenic issue smoldered unattended for a while, each side hoping that the dampening passage of time would work to its advantage.

Then came the fall of 1979 and the Carter Administration's recommendation that the 105-mile reach of the river below the dam be designated as per the study team's decision. Environmental groups, who consider the Dolores the first priority for protection among the state's few remaining pristine streams, cheered the statement, and the Rio Dolores Group, dormant for almost three years, hastily vowed to pick up their fight to see that "the Dolores isn't lost to us."

Evans' successor, Ray Kogovsek, currently opposes wild and scenic designation for the Dolores, but environmental leaders say they harbor some hope that the Congressman may reverse his position at a later date, and they continue their efforts on behalf of the River's protection. The Rio Dolores people are keeping their eyes peeled. So the fires smolder.

*DOLORES*, IN SPANISH, ARE pains and afflictions, as well as sorrows. Perhaps those translations offer more precisely symbolic names, not so much River of Sorrows as River of Afflictions, River of Complications or perhaps, River of Rival Demands. This small stream that empties a narrow watershed, sometimes jaunty, often harsh and harrowing, at times overwhelmingly beautiful, is burdened in this attentive era the West has entered with so many conflicting and competing demands that its course now seems to cut through more proposals, plans and studies, schemes and rationalizations than it does through rock and riverbottom. And it appears that its quandaried condition won't be eased for a long time to come, if ever again.

Farmers and ranchers, who have to square their jaws and struggle to survive these days, are no longer content to divert the River's water and to offer it to the fields, proud to have found a way to share its wealth. Today, buoyed up by bureaucrats whose jobs lie in the balance and by politicians always anxious to present fat plums to the folks back home, they wonder why the River "can't meet its demands," almost as if the winters, the snow-melt, the sweeping canyons had years ago made some kinds of contractual agreements. Their solution: impound the River, plug it up, seek dominion.

Meanwhile, the coal barons, who covet the water and care nothing about the survival of agriculture or the shape of the land, must eye these proceedings with delight. As the dam begins to rise, the dam that will purportedly provide water to irrigate the dry lands, they send their minions out to purchase strip-mine leases on those same lands. They watch the wall go up and smugly wait their turns.

The recreationists, who barrel into this region like shoppers into basement sales, still think of the River — the moving, fluid thing; the quiet canyons, the glacial cirques. But they forget, or have never known, that the only way to truly get to know a reach of country, to learn about its moods and motions, to have it well up like tears inside you, is to live with it, and from it, and to work at compromise.

SO HERE WE RUSH THEN, headlong into a new age. Nobody knows what this ragged region will be like, how it will *feel*, in a score of years, but everyone (perhaps out of some stubborn western determination to get by) harbors some optimism. I do. Some. The alternatives, bitter despair and the packing up of the pickup truck, are somehow still out of the question.

But I'll have a hard time cozeying up to the pretty, lace-trimmed picture needle-pointed by the Bureau of Reclamation men. (The name is actually Water and Power Resources Service now, but it's hard to get used to.) What they'd have us believe is that the project will provide bountiful good for absolutely everybody. They envision rich, irrigated crops pulled from so much of this dry land, towns spruced up and shining, a breath of hope for the struggling Utes. Everything neatly arranged, the River handily under control. Nothing much in flux.

No, I'll hold on to another perspective, to the notion that you can't tear the riverine heart out of a land without pulling some of the life out of its periphery, and its swarthy peoples. I'll stay in line with those sweat-stained men and women who make do on this dry ground, who tough it out; who figure if this country had all the water it needed it'd be, hell, Illinois, and hardly worth the toil, devoid of juniper trees.

# IMPACT OF THE M-X

## ON US, ON OUR LAND, ON OUR RECREATION

GREATLY INCREASED EXPLORATION FOR WATER WILL PROVE AN M-X BONUS FOR UTAH AND NEVADA.

M-X HAS BEEN CALLED the largest public works project in history, a boondoggle that could waste billions of dollars or be the future salvation of our country — something like a $33 billion insurance policy against a nuclear Pearl Harbor. History will record which view is the correct one. The only certainty is that full-scale deployment of the M-X missile system can only be reversed now by a Congress obviously determined to see it through. In mid-July, 1980, the House voted 308 to 19 to approve funds to proceed with actual construction plans. Considering such charged emotions, passage of the full M-X program seems assured.

A project of such magnitude should generate volumes of information but strangely, more questions remain than there are solid answers. The specific wheres, whens and whats of the M-X program are still nebulous factors despite Air Force assurances that such plans already span ten years ahead. Try to imagine a construction project affecting up to 30,000 square miles of lonely desert valleys in Utah and Nevada that could become home for the system. In dollars, M-X is three to five times as expensive as building the Alaska Pipeline. The bottom line has variously been quoted at $33 billion or $55 billion, depending on whose estimates we accept. Critics say the lower figure is deliberately under cost, that inflation over this decade will balloon the cost of the finished project to $100 billion by 1989.

Because mind-boggling figures of that size cannot easily be grasped, the usual reaction to M-X is doubt and suspicion. What the casual observer misses is the intensity of Air Force resolve to press on with the project. But arguing the necessity and efficacy of the M-X system is not our purpose here. Explaining how the system might affect our use of desert backcountry, however, is a vital concern to millions of Americans. Even if we have little say in the matter, we can at least study the expected impact on our way of life.

Visualizing the monumental dimensions of the M-X system is not easy, even for those in high office. Governor Scott M. Matheson of Utah was reported as saying: "Nobody yet . . . has been able to draw a perimeter line around the M-X and what it will mean. It is so big we have no way to measure what effect it will have."

In simple terms, the Air Force plans to construct about 200 "grids," or linear mode systems, each one of which will contain 23 shelters to conceal an M-X missile. Military strategists say that by

**Analysis and photographs by V. LEE OERTLE**

AHEAD AND TO THE LEFT OF THE TRUCK (ABOVE) IS THE NORTH ESCALANTE DESERT, SITE OF M-X'S MAIN OPERATING BASE. FRED CONDE (BELOW, LEFT) SAYS: "WE COULD STAND A LITTLE EXCITEMENT AROUND HERE!" OWNERS OF WAU WAU RANCH (BELOW, RIGHT) A POTENTIAL MISSILE SITE 25 MILES WEST OF MILFORD, UTAH, MAY NOT AGREE.

> *"Nobody yet . . . has been able to draw a perimeter line around the M-X and what it will mean. It is so big we have no way to measure what effect it will have."*
>
> Governor Scott M. Matheson of Utah

scattering one or more missiles at random in each cluster of 23 shelters, they can confuse the Russians as to the exact whereabouts of the hardware and thus deny them specific targets in event of nuclear war. The missiles would be transported at random, secret intervals from one shelter to another along connecting gravel roads. In theory, the total of 200 M-X missiles would force the Russians to commit at least 4,600 of their own missiles to neutralize the M-X in time of war. Opinion is divided on the effectiveness of the shell-game theory, but the argument is now moot. What's going in — and where — and how it might affect desert life, travel and recreation is the question at hand.

Because few Americans have read much detail about the M-X (except in Utah and Nevada) we should start with a few facts and figures about the system itself.

The general boundaries include Caliente, in Southern Nevada, to a point north of Ely, Nevada. Then east to about Delta, Utah, south through Utah past Milford to a point west of Cedar City and south of Beryl Junction, then back west to the region surrounding Caliente. Actually, the boundaries were much larger when the program was explained to the public more than a year ago. One factor contributing to the area shrinkage was the switch from a race-track mode to the newly designated grids, or linear modes, which reduced the required area by at least twenty percent. Political pressures probably account for the remainder of the ground the Air Force gave up.

M-X system construction features are so casually recited by Air Force spokesmen that their mild tone of voice and bland expression bely the enormity of the thing. Consider these project aspects. During construction, which will begin sometime in 1981 and stretch to 1989 or longer, here is a partial list of their requirements:

▬ ▬ ▬ About 9,200 miles of hard-packed gravel roads will be installed, and perhaps 1,400 miles of that total will also be paved. Some of the road details have not been fully worked out. Moving the missiles around among thousands of shelters will require complex connecting routes in virtually every desert valley in southwestern Utah and east-central Nevada.

▬ ▬ ▬ 4,600 shelters to house the M-X missiles will eventually be constructed, none closer than 5,200 feet to another. There is a slim chance that 2,300 of the total shelter deployment will be relocated outside Utah-Nevada, but governors of two other states declared in July a clear intention to avoid M-X involvement. Governor William Clements of Texas was quoted as saying: "I endorse the program 100 percent . . . but there are better locations than New Mexico and Texas."

New Mexico Goveror Bruce King allegedly added: "I don't want to see them put it in New Mexico." The two governors pointed out that while most of the Utah-Nevada lands required for M-X were already owned by the federal government, potential Texas-New Mexico sites would be largely owned by ranchers and other private parties. That would require large-scale dislocations and tremendous additional cost.

The main operating base for M-X will probably land in the North Escalante Desert about twelve to fifteen miles south of Milford, Utah. Nearly $550 million has been budgeted for this base, according to Air Force projections. Considering the fact that the entire population of Beaver County, Utah, was only 4,020 for the 1980 census, the expected 15,000 military personnel and dependents will substantially affect the economy of that region. Up to 105,000 construction workers will be required to build the bases, construct the first 2,300 shelters, and erect 156 security stations (each with a 100-foot tower) in the Nevada-Utah deserts.

▬ ▬ ▬ Thousands of trainloads of raw materials will be consumed by the M-X giant during construction. Roughly 1.9 million tons of cement, nearly 52 million tons of crushed rock and 16 million tons of sand will help construct not only shelters, but also up to 7.7 million square feet of buildings. Shelters will also consume about a third of a million tons of reinforcing steel, another half-million tons of steel shapes, and 9,000 tons of rail steel.

▬ ▬ ▬ Construction will be under the direction of the Army Corps of Engineers, South Pacific Division, but hundreds of contracts will be let to private firms as well. The list of blue-chip contractors includes such giants as Boeing, Martin-Marietta, Autonetics, Avco and many others. Each of those companies in turn will probably sub-contract to smaller firms. The net effect will stretch octopus-like over a great share of American industry, from the smallest to the largest of corporations.

▬ ▬ ▬ Power and water demands can only be estimated at this time but they will be substantial. Up to 30,000 acre-feet of water a year will be required during the peak of construction. That's roughly enough water to supply a city the size of Ogden, Utah, for a year, according to military spokesmen. Electric power needs will range up to 130 megawatts, and 11,000 miles of power transmission lines will be required to distribute electricity to shelters and bases.

## WHAT'S OUT THERE?

Fewer than 50,000 persons live in the affected M-X geographic areas, and perhaps as few as 35,500. The figure is hard to pin down because the Air Force has not yet positively identified boundaries for the system. Their usual response to questions is to run a finger over a wall map and mumble, "from about here to about there." We can be fairly certain that local residents will be vastly outnumbered by construction workers, initially, and also by military personnel, eventually. Each of the 4,600 shelters (if all are constructed) will require operating crews. Each of the 156 security stations will add more military presence, and the two operating bases at Milford, Utah and in Nevada at (we think) Coyote Springs or Ely will add another 25,000 or so military personnel.

## IN THE PATH OF M-X

We spent several days in August driving most of the back roads of the designated M-X deployment area and made these first-hand observations:

▬ ▬ ▬ Of the approximately 10 million acres involved in the program, most of it is unused sageland. The desert plateaus have little water and less vegetation, particularly the sage flats around the two proposed operating bases. Occasional small farms raise alfalfa, corn and wheat among those millions of acres. A few very large hay growers are scattered here and there, primarily near Delta, west and south of the Wheeler Peak Scenic Area, and around Beryl Junction, Utah. Virtually every town and hamlet in this affected region is cut

from mirror-like molds. Homes clustered around a central business district, farms and ranches dotting the countryside for two to twenty miles outward, and isolated ranches up to fifty miles distant. The lifestyle is primarily agricultural. Generally arid horizons reach into infinity almost everywhere you look.

Recreation is concentrated among a handful of locations on the periphery of the M-X target region. The Fishlake National Forest on the east, the Dixie National Forest on the south and the Humboldt National Forest in Nevada's south and central regions. Islands of green mountains stair-stepping up to fleecy white clouds create a stark contrast between desert valleys and forested slopes. This is particularly true around the Wheeler Peak Scenic Area just west of the Utah-Nevada border. A compact alpine cluster roughly thirty miles long by ten miles wide, with mountain peaks up to 13,000 feet, it is one of the most spectacular mountain vistas in the West. Yet it's among the least known. Geographically, the Wheeler Peak Scenic Area sits near the upper west center of the proposed M-X deployment region.

The National Park Service administers Lehman Caves National Monument at the base of Wheeler Peak, and we spoke with Ed Wood, acting superintendent, about M-X. "M-X will definitely have an impact on recreation," he told us. "We'll need to emphasize management policies to be sure protection is provided. I'm worried that the projections for population growth associated with M-X may have a detrimental effect on national park resources in this region. Our policy is to discourage any activity which might adversely affect the scenic, esthetic and physical properties of national parks and monuments everywhere, not just here at Lehman Caves."

Bruce Hart, Forest Service information specialist for the Wheeler Peak Scenic Area, was forthright in his assessment of M-X: "What concerns me as an outdoorsman, as well as a Forest Service employee, is that this enormous construction activity is going to overwhelm us with people. We're sitting smack in the middle of it. Many persons living outside the Nevada desert think this part of the West is just a hellhole. They haven't had the opportunity to visit this region and really see the great beauty and uncrowded campgrounds."

## THE REACTION TO M-X

Comments we heard around a 500-mile loop through Utah-Nevada backcountry towns were mixed but weighted toward positive response. Ranchers and farmers, of course, were concerned primarily with water and the loss of grazing. Miners and small prospectors worried over access to their remote claims. Local residents throughout the district were a bit apprehensive about the possible closures of post-cutting and firewood gathering activities. Outdoorsmen were concerned about access in and out of favorite backcountry haunts. Most of the comment boiled down to worrying about roads, both new and old. There is hope that the 9,200 miles of new, hard-packed gravel roads (some of them paved) will make difficult backcountry more accessible for legitimate pursuits.

One rancher lamented a previous lack of funds to maintain roads in decent shape: "Sandy or clay roads that look solid underfoot quickly turn into muddy quagmires every time a summer storm passes. And in winter, snow never gets plowed away.

> *"The Air Force exaggerated in labeling the M-X the largest public works project of all time. The Great Wall of China and Egypt's pyramids are larger."*
>
> Phil Dykstra, M-X program manager for Thiokol Chemical Corporation

## WHAT MAY HAPPEN

There is some suspicion that the Air Force intends to close huge areas of backcountry, once M-X has been funded and construction begun in earnest. But the Air Force insists that is not true. Their contention is that only about 2-1/2-acres will be fenced off around each of 4,600 shelters, or less than 25 out of perhaps 15,000 square miles of terrain located within the proposed deployment area. Nothing has been released concerning security patrols, as yet, but this reporter believes that during actual construction, the Corps of Engineers will not want to worry about four-wheelers, wood-gatherers and tourists underfoot. It seems reasonable to presume that each affected valley (more than 200 of them) will probably be closed for some time during the actual construction of missile shelters. Huge earth movers will be trundling an enormous tonnage of rock, sand and cement virtually around the clock during the peak construction years of 1983 through 1986. As a matter of public safety, we can scarcely believe otherwise. But not all valleys or all roads will be under construction at one time, of course.

One of the beneficial impacts of M-X may turn out to be the development of heretofore untapped water sources. Utah, in particular, possesses little information on its underground water supplies in remote desert valleys. No inventory drilling tests have been performed in most of the affected regions. It was left up to miners and remote ranches to drill their own wells, and from those results the state got some idea of the potential. But initial reports from drillers under contract to M-X suggest that the water picture is far from bleak in some deployment regions. It is believed that more than sufficient water sources are being developed to cope with the expected demand for M-X construction. After construction tapers off, some of that unused water may go toward reclaiming huge tracts of desert land. By the end of the 1980s some sections of backcountry Utah and Nevada heavily trod by M-X may yet blossom with new croplands, small farms and ranches. The land is fertile. Water will bring crops when available.

## AFTER M-X, WHAT?

Although Air Force documents contain some flexibility in the time-tables, it appears that the period from January 1982 to late 1989 will be one of frenzied bursts of activity. Road surveys followed by preliminary road construction will probably be the first widely-noticed action, since no construction can take place without good access for the necessary heavy equipment. By 1990, the M-X system will be largely completed and emphasis will shift from construction to maintenance and operation. From figures published by the Air Force Ballistic Missile Office (Norton AFB, California), we find them forecasting the heaviest impact on terrain and social structure during 1983 to 1985, but continuing with fair intensity until the end of this decade. Ten years of upheaval during which time the most lonesome Utah-Nevada deserts will blossom with life and energy. The huge spending plans will generate so many jobs and business opportunities that lethargic small towns in

M-X's path or along its periphery will be swept up in the excitement.

The Air Force points to hundreds of missiles located in Minuteman silos scattered throughout sections of the Midwest and northern tier of states. Once installed, they were quickly forgotten by local residents living in the vicinity. Military bases also generate huge payrolls, stimulate sagging small-town businesses, and create a more stable economic base. M-X is projected to add 20,000 to 30,000 new permanent residents in each of the two affected states. Such figures are made more significant by the realization that populations will triple or quadruple in presently lightly populated counties in Utah and Nevada. These are facts, not necessarily rewards.

So far as backcountry is concerned, once the M-X has been constructed, deployed, and the dust has settled, the desert will probably remain at least as usable as it is today. Ultimately, of course, the missiles will be made obsolete by new technology. Perhaps by laser-beam weaponry. But for the next fifteen to twenty years, the Air Force is convinced that the U.S. must have the M-X to restore the balance of power. The impact upon desert travelers will peak by 1985, and decline sharply by 1990. Restrictions on rockhounding, backcountry travel, gathering firewood and other legitimate pursuits, recreational or life-sustaining, may come, of course. However, they are expected to be temporary in nature.

Perhaps we should be reassured by a report in the *Deseret News* dated March 20, 1980: "Phil Dykstra, M-X program manager for Thiokol Chemical Corporation, says the Air Force exaggerated in labeling the M-X the largest public works project of all time. 'The Great Wall of China, and Egypt's pyramids are larger,' Dykstra was quoted as saying."

In terms of manpower that may be true. But in dollar values, nothing ever undertaken by man comes close to the M-X.

*Editor's Note: At presstime, House and Senate conferees agreed to accept Senate language that would temporarily limit the number of M-X missiles the Air Force may deploy in Utah and Nevada. The compromise defense bill (if passed by both House and Senate and signed by the President) would require that the initial phase of M-X construction be limited to 2,300 protective shelters for 100 missiles in the Great Basin area of the two states. The measure states that Congress expects the Pentagon to build 4,600 shelters with 200 missiles, placing the balance of the M-X force elsewhere,* if feasible. *If the Secretary of Defense finds, after new studies, that the Great Basin area remains the best location for the entire missile force, Congress would then regain the final right of decision.*

*Statistical data with this report covers the full deployment, in most cases. However, it is not yet clear if the Air Force intends to enlarge the basic M-X ground area or try to stuff them all into the general boundaries described in this report.*

# POSSIBLE IMPACTS OF M-X UPON ***DESERT*** READERS

▬ ▬ ▬ TRAVEL ON MAIN HIGHWAYS: No expected changes other than an increase in traffic during the construction period.

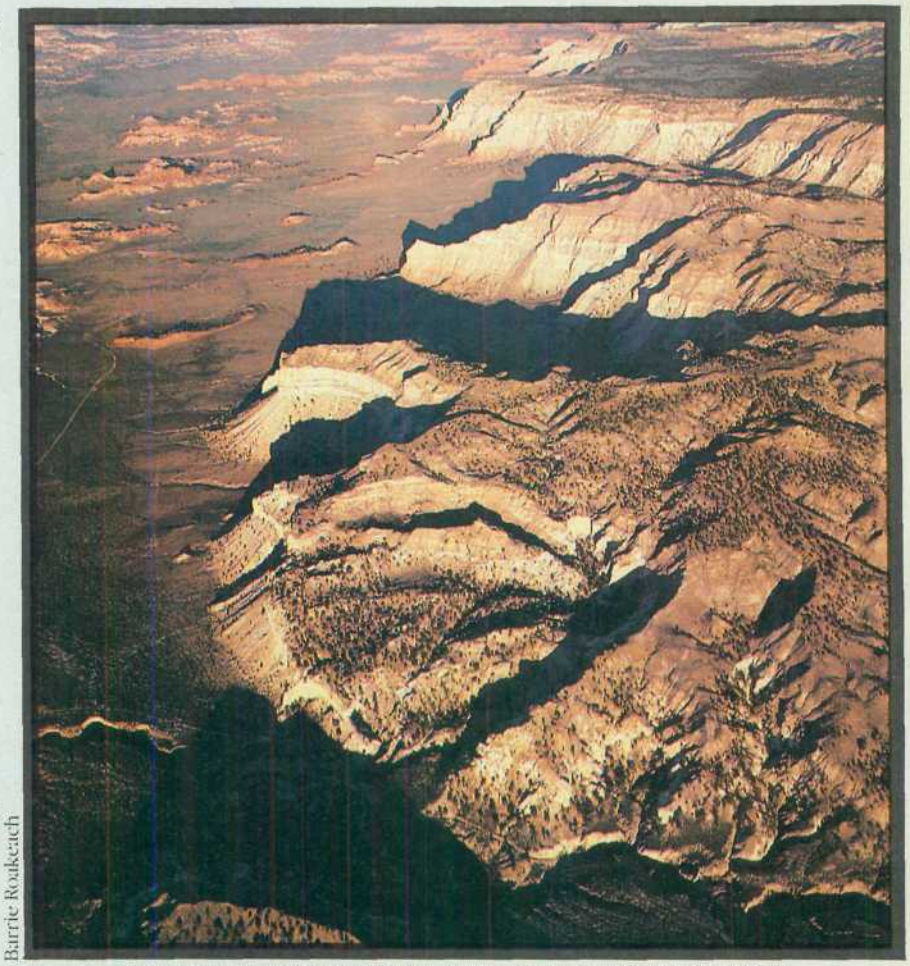
▬ ▬ ▬ BACKCOUNTRY TRAVEL: Until 1982, virtually no visible change. During that year, road construction will begin in earnest and possibly disrupt travel. Alternate routes may occasionally be necessary in the following counties: Iron, Beaver, Millard and Juab counties in Utah; Lincoln, White Pine and possibly Nye counties in Nevada. Not all areas will be affected at one time.

▬ ▬ ▬ VISIBLE DIFFERENCES: Dust will be the negative impact most noticeable. Over 9,000 miles of roads under construction will undoubtedly raise a curtain of silt that may obscure horizons during the several years of activity.

▬ ▬ ▬ ROCKHOUNDING AND SMALL MINES: Military spokesmen assure us that access to mineral claims and ordinary backcountry rockhounding will not be closed; unless, that is, isolated claims end up in the middle of a base or shelter area.

▬ ▬ ▬ OFFROAD CAMPING AND EXPLORATION: No change, says the Air Force. Conflicts might arise if someone insisted upon penetrating a construction area for camping or hiking. However, most persons would recognize the potential discomfort of camping too close to heavy construction, dust and noise. There are alternatives on the deserts.

▬ ▬ ▬ RECREATIONAL FACILITIES RINGING THE DESERTS: Mountain areas near Ely and Baker, Nevada (Humboldt National Forest regions) and near Beaver (Fishlake National Forest) and around Cedar City and Parawan, Utah (Dixie National Forest) will probably notice increasing human pressures as construction workers and military personnel begin arriving in large numbers by 1982. By mid-decade, demand for available campsites may increase dramatically. Both the Forest Service and the National Park Service agree that population impacts will steadily create more competition for visitors.



Barrie Roderick

BRYCE CANYON NATIONAL PARK, AN HOUR'S DRIVE FROM UTAH M-X COUNTRY, MAY SUFFER FROM PEOPLE PRESSURE.

THE CACTUS CITY

# Clarion

☆THE NOSIEST NEWSPAPER IN THE WEST☆

VOL. 1 NO.10 MARY EILEEN TWYMAN, EDITOR NOVEMBER, 1980

# POACHERS THREATEN BIGHORNS

*by Peter Aleshire*

***Palm Desert, Calif.*** — State Game Warden Jay Harris scans the sunrusted hillsides of California's Santa Rosa Mountains through his binoculars.

He's not sure what he'll see but like the prickling of neck hairs, he feels the poachers are out there.

Harris is the latest in a generation of game wardens who have guarded over the peninsular, desert and California species of bighorn sheep for the past 100 years. He watches over an immense sprawl of land in Riverside County, including the steep thorny hillsides of the state's sprawling sheep reserve in the mountains just behind Palm Desert.

Some 500 peninsular bighorns wander across this range and each powerful ram, laden with forty to fifty pounds of curling horns, is a $15,000 temptation to poachers.

That's the price some hunters today are willing to pay a guide for an illegal shot at the protected, and dwindling, bighorns.

Poaching now poses a serious threat to the bighorns, according to Powell. In the past ten years there have been some forty confirmed bighorn kills by poachers, but Powell estimates the true figure is ten times that. The statewide sheep population is estimated at 3,500 to 4,000.

A recent case involving a multi-millionaire has spotlighted the incursions of the poachers. The State Department of Fish and Game is now pursuing an involved legal action against Glenn Phillip Napierskie for mounting and displaying 24 bighorn sheep in his home.

Napierski, a plumbing contractor, lives in San Diego County according to Powell. Recently, Powell, armed with a search warrant, found a trophy room full of bighorns at the home.

The warden declined to give details of the case, noting that Napierskie has an expensive lawyer fighting charges of having the remains of the protected animals in possession.

**(Continued on pg. 32).** ☛

Modern "49'ers" at work (see page 34)

# ANDRUS DECRIES SAGEBRUSH REBELLION

***Incline Village, Nev.*** — Members of the Western Governors' Conference clashed with Interior Secretary Cecil Andrus over what the governors complain is federal encroachment on control of land and water in their states.

Several western states including Nevada, Utah, New Mexico, Wyoming, Washington and Arizona have declared their ownership of federally administered lands in what has been called the Sagebrush Rebellion.

The move, according to Nevada Gov. Robert List, has attracted the federal government's attention, "increasing the degree of responsiveness to our concerns and expressed anxieties."

Andrus told the governors at their annual meeting that he believes the opposition to

**(Continued on pg. 33).** ☛

# Leghold Trap Ban Spreading World-Wide

***New York, N.Y.*** — Forty-five nations have responded so far to a letter sent by Friends of Animals, Inc., reporting to the organization that they have banned the leghold trap used to catch animals.

Friends of Animals is urging the passage of federal legislation that would ban the interstate shipment or export of fur pelts by states that allow use of the devices. Currently, all states still allow the leghold trap.

Ireland, England, Brazil and Chile have outlawed the trap, as have all the Scandinavian nations, also Switzerland and Hungary. Hong Kong responded that it outlawed the trap nearly thirty years ago. India and Bangladesh also have prohibited the trap.

Bills introduced in the House of Representatives by Clarence Long of Maryland and in the Senate by Harrison Williams of New Jersey would effectively ban the leghold trap in the United States by prohibiting fur trade in interstate and international commerce with states and countries that have not outlawed the leghold trap.

The leghold trap is a spring device, constructed so that two semi-circular jaws snap with crushing force whenever anything touches its trigger pan. Usually, these traps are set in locations like water holes that attract wild animals. When an animal is caught in the trap, it is subjected to intense pain, often gnawing off its own trapped foot to gain freedom. Or, it remains shackled by the springloaded jaws until the trapper comes to kill it.

***Desert* New Service**

# DOG VS. RANGER

***Los Angeles, Calif.*** — When that vast splotch of acreage stretching north and west from my backyard in the Santa Monica Mountains was declared a state park a few years ago, I cheered. No one loves an unmolested coyote more than I. God knows, the rattlesnakes and the liquid-eyed chipmunks need their own space too; as we say in L.A., they leave me alone, I leave them alone.

Which is why I am now upset. It happened just a few days ago in Topanga Canyon where once the hippies roamed wild and, before them, movie producers brought their toothsome little gingersnaps to frolic among the mustard plants.

I was walking along a fire trail with my leashed and amiable dog Hoover, enjoying scenic beauties formerly reserved for members of the Sierra Club and other ecology-minded card-carriers when, from the other direction, came a pickup truck bearing a Park Ranger.

He stopped his truck in our path and got out, the way a motorcycle cop gets off his bike when, doing his sworn duty, he is about to give you a ticket. The Ranger, it was clear, had taken LAPD lessons. He was a pro.

"You've got a dog," he said, stating the obvious. I looked at Hoover, and he looked at me.

"Right," I said, "I've got a dog."

The Ranger sighed and shook his head. "No dogs on the back trails," he said wearily.

"The dog's on a leash," I replied. The Ranger's training may not have acquainted him with leashes.

"No matter," he said. "Dogs aren't allowed on back trails. I could give you a citation."

I don't especially love dogs. I was walking my dog that day because it just worked out that way. Had circumstances been different, I might have been walking my mother. Mothers are no doubt allowed on the back trails.

I probably should have let it go at that. Life is easy when you follow orders. Turn around, take the dog home and have a martini. But I didn't.

**(Continued on pg. 38).**

# Artificial Waterholes

***Calipatria, Calif.*** — Five artificial waterholes installed along a newly built section of the Coachella Canal in Imperial County (***Desert***, Oct. 1980) appear to be effective in keeping deer and other wildlife from becoming trapped in the concrete-lined canal in their search for water.

The waterholes have been constructed in locations that intercept known deer trails. Additionally, an equal number of metal cattle troughs have been installed on the trails themselves.

The waterholes, constructed by the U.S. Water and Power Resources Service, are approximately 23 by fifteen yards, two feet deep and lined with plastic. Only one deer has been reported trapped in the canal since the water holes were constructed.

In all, eleven deer and two burros are known to have died as a result of entrapment in the steep-sloped, concrete-lined channel.

***—Desert* News Service**

**Poachers (Cont. from pg. 31)**

Theoretically, Napierskie faces a fine of $1,000 and one year in jail for each bighorn.

However, notes Powell, the last man convicted of poaching the animal was required to pay $1,800 in damages to the state and put on three-years probation, during which time he could not hunt or carry a gun.

Poachers who are willing to pay $10,000 to $15,000 for a guide to hunt the sheep are not likely to be deterred by the fine, Powell said.

According to Rudolfo Ruibal, a University of California biologist, poachers, along with controlled hunting proposals that arise from time to time in the legislature, pose an especially acute threat to animals living in small, isolated herds like the bighorns.

Poachers are after the magnificent curling horns of the rams. In resounding head-bashing sessions, the males use their horns to establish dominance and with that, access to the ewes. By shooting the rams with the best horns, hunters cull the strongest individuals out of the gene pool, impoverishing the genetic stock of future generations, Ruibal said.

The attraction of the illegal bighorn sheep to poachers, according to Harris, is the coveted "big game sweep," a trophy set of horns from each of the three species.

Powell said that the price of a guide to hunt the protected desert, California and peninsular bighorns is basically set by the price of a hunting permit for the animals in Mexico, which is $10,000. The surcharge of up to $5,000 is negotiable.

That price makes poaching highly profitable for the guides. Authorities suspect one guide, caught in 1970 and prosecuted for just that incident, had actually taken 150 rams, then worth about $3,000 each. His earnings — $450,000! Each year, wardens catch three to five poachers.

State economist Frederick Walgenbach estimated a bighorn sheep was worth $16,525 in a 1975 court case. That estimate was based on the cost of raising a sheep (then $4,700 according to an estimate stemming from a Nevada program), plus $5,700 for the loss to society, a figure which assumes ten percent of the population was willing to pay ten cents each to keep the 35 sheep known killed between 1966 and 1975 from being killed. In addition, Walgenbach added $3,325 in non-physical damages done to hunters who had obeyed the law and not hunted, since that was what the poachers had paid for the illegal hunt.

Now that figure would be closer to $10,000 and the value of a sheep, $23,000, Powell notes.

***—Desert* News Service**

# NEVADA RAILROAD MUSEUM GETS LV&T COACH

***Carson City, Nev.*** — Nevada's railroad museum here has added an old passenger car to its collection of vintage railroad equipment. The museum, open since May 31, purchased a rare open-vestibule coach from the Los Angeles Live Steamers group.

The wooden car was built in 1907 by the Pullman-Standard Mfg. Co. of Chicago and first ran on the Las Vegas & Tonopah Railroad as their No. 30. It later saw service on the San Pedro, Los Angeles & Salt Lake Railroad, now a part of the Union Pacific system, before being utilized as a tool car for several Los Angeles area industrial firms. The Live Steamers came into possession of it sometime in the mid-1950s and used the distinctive antique as a club house and workshop.

Once at the museum, the old coach will be stored until funds are obtained to restore it to original condition. Last year, the museum was given more than $750,000 by the Fleischmann Foundation to not only construct a workshop facility, but to restore its collection of some 23 Virginia & Truckee Railroad cars and locomotives. With the addition of the Las Vegas & Tonopah coach, the Sagebrush State's first railroad museum is off to a good start.

**— Reese River REVEILLE**

**Andrus (Cont. from pg. 31)**

federal policies will fade once November's elections are over. He termed the rebellion "political rhetoric that has taken on a life of its own."

He also said he expects the states to lose in court battles over the land and water rights.

But Utah Gov. Scott Matheson, speaking for members of the conference, countered: "I do not think the Sagebrush Rebellion is over. I think it is just catching hold and I think it will be with us for a long time."

Matheson, who headed the panel on water and land rights, said the rebellion was a reaction to continuing federal encroachment into the state's rights to control their land and water.

He criticized the permit system requiring the Army Corps of Engineers' approval of a vast array of water projects which he said sometimes seems to challenge state water authority.

Andrus, in turn, accused the governors of exhibiting an element of paranoia in their fears about the Army Corps permits.

While Andrus and President Jimmy Carter have promised to obey state water laws, Matheson complained that "those in the field do not seem to be getting the message." **(See related story, page 38).**

**— Western PROSPECTOR & MINER**

Coal-mine fires can last for decades and cost millions of dollars to control. More than 250 known fires are burning in abandoned deep mines and on refuse banks throughout the United States, most of them in the mining states of Montana, Colorado and Pennsylvania.

# ACTIVITY STIRS ON OLD MOJAVE ROAD

***Barstow, Calif.*** — For centuries the agricultural River Indians journeyed to the coast on trails interspersed by convenient springs. Often they traded nuts and produce with coastal tribes for shells. Some say runners covered distances up to 100 miles a day and made the entire trip in four days.

The Mohaves accompanied the Spanish explorer-padre, Francisco Garces, west via their trail in 1776. American frontiersmen such as Jedediah Smith and Kit Carson traveled the Mojave Trail again a half-century later.

By the mid-19th century the increase in American trade, mail and travel between Southern California and Arizona induced the U.S. Army to establish outposts east from Camp Cady on the old watering holes — Soda Springs, Marl Springs, Rock Spring and Paiute Creek.

Then there was total stillness along most of the wind-blown, eroded, forgotten trail until it was rediscovered and traveled by Dennis G. Casebier, beginning about 1965. His labor of love has produced several books and articles, and rekindled interest in the historical project.

Latest recorded visitors were about twenty Mohave senior citizens accompanied by younger relatives and friends.

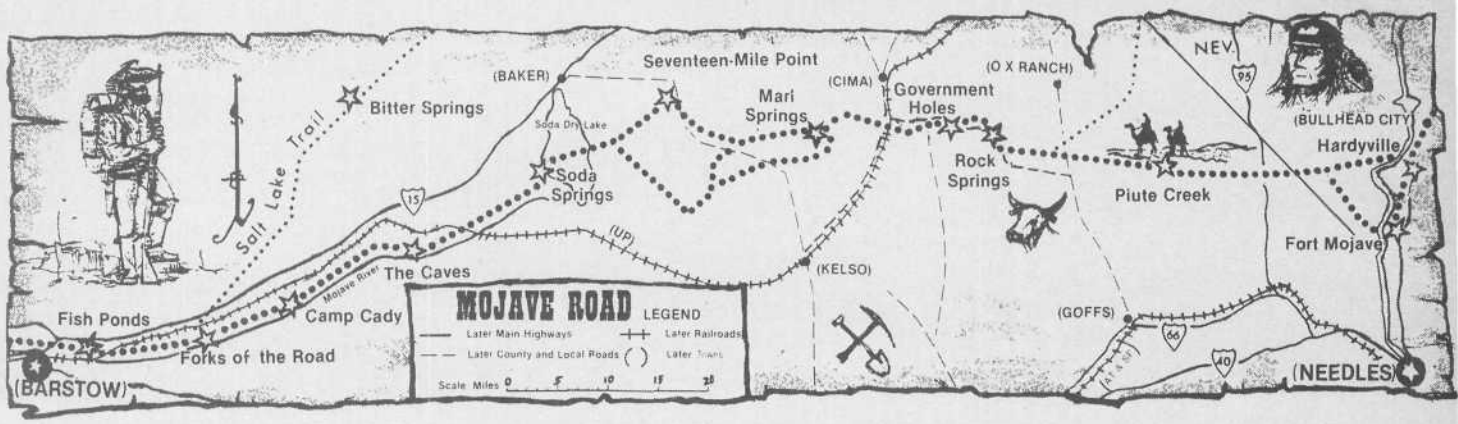
Highlight of the day was to be a race between Mohave runners Ricky Garcia and David "Cowboy" Fass, and a Hopi challenger, Charles Rednick, a Young Adult Conservation Corps member, who works for the BLM in Riverside. It didn't quite come off. They ran for about two miles west on the rocky trail, but then had to stop and dig out the BLM truck that had got stuck on a steep sandy road bank while trying to break trail for the athletes.

The tired runners and BLM'ers then drove the remaining six miles to Rock Spring, where Casebier showed the Mohaves the site of the Army outpost, corral, supply cave, Indian petroglyphs and 120-year-old military rock art.

In staging events on portions of the trail and publicizing them, the Riverside (Calif.) office of BLM is hoping to generate enough public interest to warrant allocation of funds to open the Mojave route to foot, equestrian and vehicle traffic.

Dennis Casebier, in turn, will hopefully see his project advanced to benefit the many who have heard of the "Old Mojave Road" but who didn't know where to begin looking for it, much less travel on parts or all of it.

***—Desert* News Service**



# THE GOLD RUSH OF THE '80s IS ON

*by Wayne Winters*

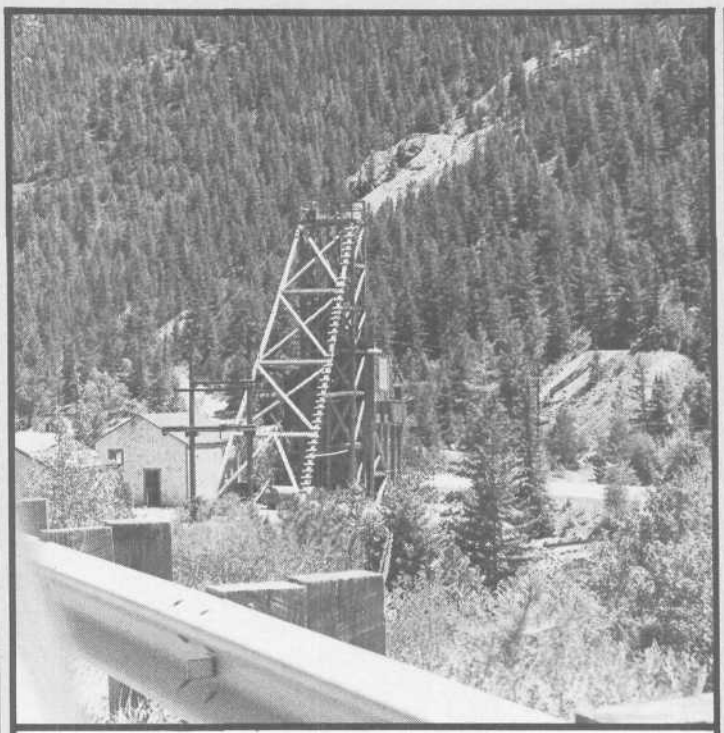
***Tombstone, Ariz.*** — The gold rush that had its beginnings in 1979 when gold prices started their rise to "realistic" heights has developed into a full-fledged boom. Persons involved in all phases of the industry including major mining firms, small miners, prospectors, recreational miners, mining machinery manufacturers and equipment supply houses concur in this estimate.

The rush to the streams and hills all over the West, as well as to the old, early-day gold mining areas of the Southeast, is reaching unprecedented proportions.

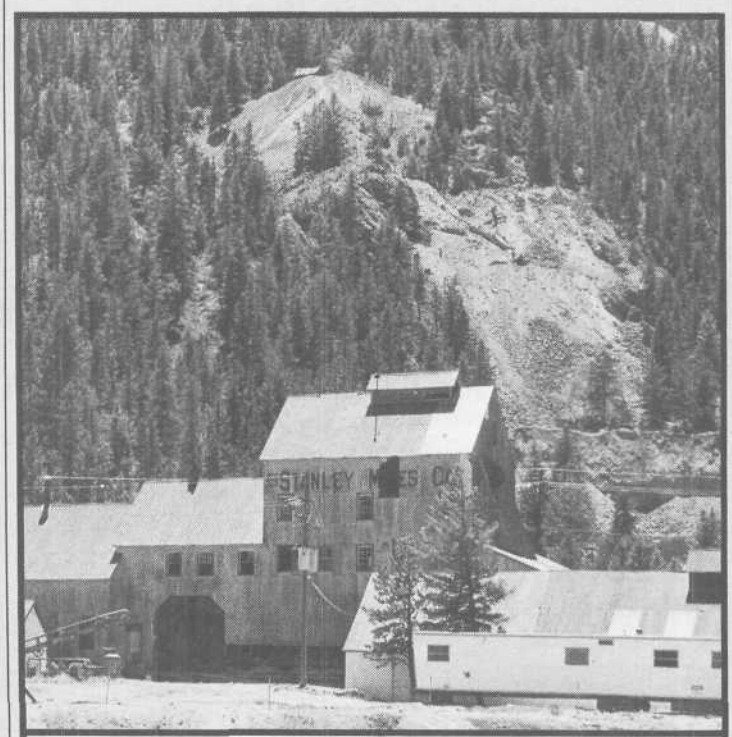
While much of the more visible activity is caused by the so-called "recreational" gold miner, the person who is not engaged full time in the pursuit of gold mining but who spends weekends, evenings or vacations digging, dredging or panning for the metal, the professionals, small independents and majors alike, are embarking on a multifold increase in their gold activities.

Manufacturers, particularly those of suction dredges designed to be employed in the underwater recovery of placer gold, are said to be so far behind in their production that in many cases they are not accepting orders for delivery before late 1980. Some have gone so far as to advertise that they will not accept any more orders until further notice. Repair parts for certain models require up to six weeks for delivery.

A number of large gold placer operations are underway in Colorado, California, Nevada and Oregon. All of the other gold-producing states in the West have large placering setups producing. Alaska, of course, is booming as usual. British Columbia is also the scene of considerable large-scale placer work. Mexico, Central and South America are also the locales for a greatly increased tempo in placering, but little information comes out of these countries due to the secretive nature of gold producers everywhere.



Donna Juanita Mine near Idaho Springs was last worked in 1930s.



Hoist house at the Stanley Mine sits above miles of workings 800-feet deep.

Mines all over the West that have been shut down ever since the Executive Order of 1941 are being cleaned up, explored and put back into production. One new site, known as the Jerritt Canyon Mine, is located fifty miles north of Elko, Nevada and is being touted by the members of the joint venture (Freeport Gold Co. and FMC Gold Corp.) as being potentially the "biggest producer of gold in the country." The mine is slated to produce 200,000 troy ounces of gold per year, which would almost double Nevada's current gold production. The ore body involved is a very large deposit of microscopically fine gold. Chemical means of separating the gold from the ore will be employed.

Heretofore, South Dakota has been the leading gold producing state, but Nevada is expected to edge out the great Homestake Mines for the production record within the next few years, barring additional major finds in the Black Hills country.

Small mines are going into production as hard-rock operations all over the West. Working on comparatively narrow but high-grade veins, many veteran miners, oftentimes men who as youngsters helped their fathers eke out a family living from a narrow vein during the Great Depression, are back in the old diggings so long shut down. They are taking handsome profits from stoping up, working on waste (resuing mining) methods.

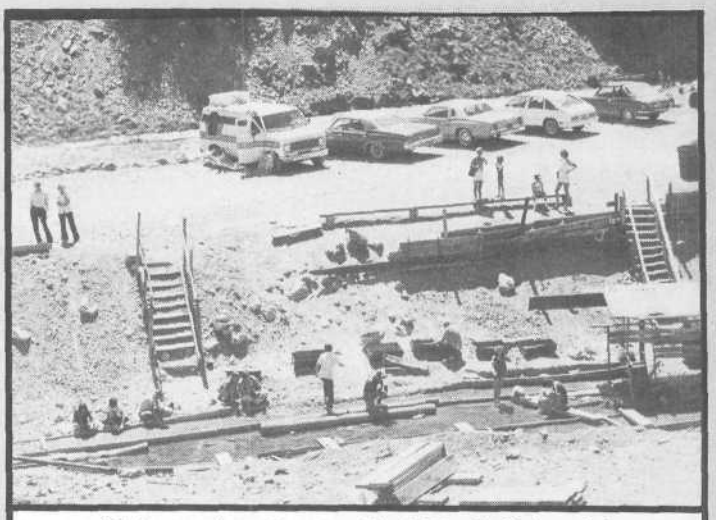
Entrenched U.S. mining circles are bemused by the fact that the famed gold mining firm, Consolidated Goldfield of South Africa, has operated the great old Harquahala Mine west of Phoenix and south of Salome in Arizona. The Harquahala has gone begging in recent years, with its owner having offered it for sale at an extremely low price as recently as two years ago. Many American mining firms have given it a quick once-over then turned it down. Today they are wondering what there is that the big South African gold specialty mining firm knows about that property that they failed to recognize.

The small miners are currently hampered by the lack of good used mining machinery, the high prices for what is available, and difficulty in securing explosives from the powder manufacturers without undergoing time-consuming and frustrating delays.

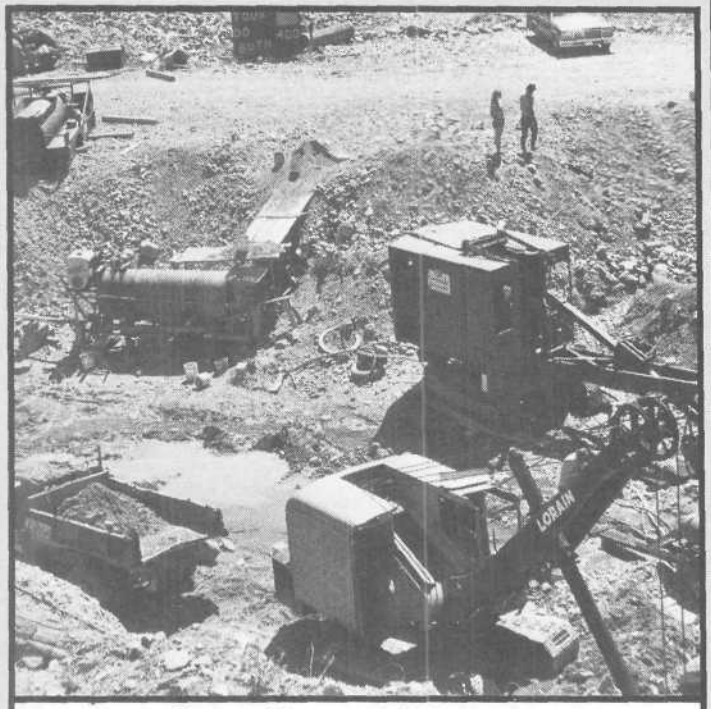
Some of the explosive scarcity undoubtedly stems from state and federal government regulations, designed to make these materials less easily available to criminals. On the other hand, explosive manufacturers in some instances appear to have made purchases of various items employed in mine blasting unrealistic for the individual prospector or small miner. For example, one firm that until comparatively recently supplied blasting fuse in amounts as small as 100-foot rolls, now requires the purchase of at least 3,000 feet of fuse in a roll. This, and similar restrictions, make it extremely difficult for the one- or two-man operation as well as for the single-jackass prospector in the field.

In spite of the headaches caused by slow deliveries of machinery, high prices and what appears to many to be a "don't-give-a-damn" attitude on the part of many suppliers, gold mining is going on today at a greater pace than ever before in the history of the country. Thousands upon thousands of individuals from all over have been bitten by the gold bug and are either actively seeking the elusive yellow metal or are laying plans to do so within the coming months. Many of them are meeting with a degree of success that warrants further effort on their part. There appears to be no way to go in the foreseeable future but up for gold mining. The great gold rush of the 1980s is underway!

**— Western PROSPECTOR & MINER**



Vic's panning site near Black Hawk, Colorado, caters to tourist families.




Trommel in upper left of picture is a machine that separates concentrates from waste.

Serious miners work Vic's Black Hawk site on a percentage basis.

These dredgers are at work in Clear Creek Canyon between Golden and Central City, Colorado.

# THE DESERT ROCKHOUND

## by James R. Mitchell

**Collecting Sites:** The Crookton Road onyx location south of Ash Fork, Arizona, is temporarily closed. There is a new subdivision being built, and the developers will not allow collectors through. However, if you are interested in a source of good quality onyx, I suggest heading south and obtaining it near Mayer. It is found just east of the highway fence, about one-half mile south of the Mayer turnoff from Highway 69. The material found here is more colorful, having more brown and gold tones than that near Ash Fork.

Bob's Knob, south of Zapata, Texas, has long been known as a prime spot to pick up jasper of virtually every imaginable color, a wide variety of agate, petrified wood and even shells. The location is primarily for the use of patrons at the trailer park, but other rockhounds are allowed to collect for $1.00 per day, per person. To get there, take Highway 83 south from Zapata for thirteen miles, turn to the right, and continue another nine miles to the trailer park.

Richardson's Recreational Ranch, one of the best fee collecting locations in Oregon, is now open all year, 24-hours a day. Among the items that can be found are thundereggs, moss-agate, a variety of jasper, polka dot jasp-agate and rainbow agate. The main collecting spots are worked on a regular basis to provide prime digging for rockhounds. In addition, the famous Priday Agate Beds are now also owned by the Richardsons. There is a fine rock shop on the ranch, and specimens of everything obtainable here can be examined and/or purchased.

**Publications:** A new publication, by Roger K. Pabian, for those interested in geology, entitled *Record In Rock*, is available for $1.00 from the Conservation and Survey Division, University of Nebraska, 113 Nebraska Hall, Lincoln, NE 68588. Ask for Educational Circular No. 1.

Michael Fleisher's 1980 edition of *Glossary Of Mineral Species* is now available. This reference book lists virtually every mineral species, with its chemical formula and crystal structure. For your copy of this authoritative work send $6.00, plus $.50 postage and handling to Mineralogical Record, P.O. Box 35565, Tucson, Arizona 85740.

**Helpful Hints:** I have always had trouble using dop wax. It never fails to drip, or not hold, or seep over the edge of the stone I am working and in the process, fouling the grinding wheel or sandpaper. In my search for a better way to hold stones to dop sticks, I've found Gy-Roc Cabber tape, supplied by the TAGIT Company. It is easy, fast, and it holds well. Be sure, however, that the stick and stone are free of grease and oil. To remove, place in warm water and the stone is easily separated from the dop head. Adhesive left on the stone or dop can be rolled off with your finger. For more information, contact TAGIT, P.O.Box 164, Pico Rivera, CA 90660.

The Ventura Gem & Mineral Society has found that a fiberglass eraser, procurable in most office supply stores, is very useful in cleaning and polishing silver. It gets into the smallest crevices and cracks and the results are very good. The only drawback is that the bristles should not be touched, since it can be painful if they get into your finger. And you may be allergic to fiberglass.

The Silvery Colorado River Rock Club has found a unique method of cleaning tarnished jewelry and silverware. They suggest dropping the discolored items into water left from boiling potatoes. Leave them there for about an hour or two and they will come out shining.

If you do any silversmithing, I am sure that from time to time too much solder has been applied, and it was difficult to remove the excess. The Oilbelt Rockhounds suggest you take a narrow strip of silver, about one-third inch wide by three-fourths inch long, and cut a small slit in one end. Then, heat the piece of jewelry containing the excess solder and touch it with your slit strip. The excess will flow onto it and will be removed.

**Shows:** The Midland Gem & Mineral Society of Midland, Texas, will hold their 18th Annual Show at the County Exhibits Building, November 1 and 2. The 7th Annual Galveston Gem and Mineral Show will take place from November 5 through the 8 at the Galvez Mall. The Dallas Gem and Mineral Society will hold their annual show in the Tower Building at Fair Park, Dallas, on November 8 and 9; and the Austin Gem and Mineral Society will hold their "Gem Capers 1980" in the lower level of the Municipal Auditorium on November 14 through the 16.

The Lake Havasu City Gem and Mineral Society is ready for its 11th annual "Havasu Gem Festival." It will take place at the Junior High School and promises to be an outstanding event, in a most unique Arizona city.

The Mineralogical Society of Southern California is in the final stages of putting together its 33rd annual extravaganza. This is one of the premier shows in the Southwest, and will be held on November 15 and 16 at the Pasadena Center.

**Exhibits:** One of the finest and most comprehensive mining exhibits in the country has opened in the Arizona Historical Society's Mining Hall. It cost over $1 million and represents eight years of planning and research. It features a tunnel, with various types of mining techniques illustrated, and a replica of a mining town. Visitors hear taped messages to interpret the various displays. The museum is located at 949 East 2nd Street, in Tucson, and admission is free. This is highly recommended to anyone interested in mining and Arizona history.

The famed Mineral Hall and Gem Gallery at the Academy of Natural Sciences in Philadelphia will be opening soon, after its recent renovation. This is the oldest natural science museum in the Western Hemisphere and the newly remodeled mineral exhibit will feature over 2,000 specimens. The Hall spotlights the world's largest gem-quality amethyst, weighing 52 pounds and measuring fourteen inches high and ten inches wide.

**Synthetic Petrified Wood:** A procedure for making petrified wood has been developed at Harvard University. Chemical silicification is achieved by using ethyl silicate and silicic acid. The results are very similar to opalized wood and it only takes a few weeks to completely petrify a small chunk.

**Out of the Past:** In 1915, while drilling a shaft at the Cressen Mine near Elkton, Colorado, miners broke into a huge cavity at the 1,200-foot level. They had come upon other crystal vugs before, but none like this one. It was thirty-feet across, eighteen-feet high and lined with sylvanite, which is a telluride of gold and silver. The sylvanite was almost pure gold, many feet thick. The find was so valuable that a vault door had to be placed at the opening until it could be removed.

# DESERT CALENDAR

*Listing for Calendar must be received at least three months prior to the event. There is no charge for this service.*

***Nov. 1-2:*** The 11th Annual Benefit Plant Sale presented by the Theodore Payne Foundation Guild, 10459 Tuxford St., Sun Valley, Calif. Hours are 10:00 a.m. through 4:00 p.m. Indoor and outdoor plants for sale. Natives available from the nursery for fall planting. Food and drinks in picnic area. Free Parking, No admission. For more information call (213) 768-1802.

***Nov. 1-30:*** "One Little, Two Little, Three Little Indians" — Special collection of Indian dolls including Kachina, Eskimo and Navajo dolls, and dolls made by Shoshone dollmaker Ivy Bird. McCurdy Historical Doll Museum in Provo, Utah. For further information call (801) 377-9935.

***Nov. 1-2:*** Annual "Wonderful Weekend in Twentynine Palms," in Twentynine Palms, Calif. at the Junior High School on Utah Trail and the Art Gallery on Cottonwood Drive. For further information, contact Twentynine Palms Garden Club, P.O. Box 934, Twentynine Palms, CA 92277.

***Nov. 2-9:*** Cattle Call Week, Brawley, Calif. Highlights are Championship Rodeo, with over 100 ranking cowboys performing at 2 p.m. and 7 p.m. on Nov. 8 and 2 p.m. on Nov. 9; a two-hour parade with 3,000 participants along Brawley's Main Street, starting at 10:00 a.m. on Nov. 8; a Mexican Fiesta; beef cookoff; bluegrass concert; and barbeque. Also an exhibit of western and cowboy art from the Cowboy Hall of Fame. For further information and details contact Lew Bacon, Mgr. Brawley Chamber of Commerce, P.O. Box 218, Brawley, CA 92227, or call (714) 344-3160.

***Nov. 7 - Dec. 14:*** The historic Mission Inn of Riverside, Calif. announces the opening of its fourth dinner theatre season. *Godspell* will run Wednesday through Sunday, from Nov. 7 through Dec. 14. Cocktails at 5:30, Dinner at 6:00 and show at 7:30; Wed., Thurs., and Sunday. Friday and Saturday, cocktails at 6:30, dinner at 7:00 and show at 8:30. For information and ordering, call (714) 784-0300.

***Nov. 26-30:*** San Diego Council of Gem & Mineral Society's 15th Annual Rockhound Round-Up. Walker's Gold Ranch, Ogilby Rd., off Rt. 8, 45 miles east of El Centro, 14 miles west of Yuma. For information write or call Norm Kite, Chmn., 1934 So. Horne, Oceanside, CA 92054. (714) 433-2222.

## *Photo Contest Rules*

Each month when entries warrant, ***Desert*** Magazine will award $25 for the best black and white photograph submitted. Subject must be desert-related. In the opinion of our judges, none of the entries received by the deadline for our Nov. contest qualified for an award so no prize will be awarded this month. Prize money will be added to next month's winnings, a total of $50 for the lucky winner.

Here Are The Rules:

1. Prints must be B&W, 8x10, glossy.
2. Contest is open to amateur and professional. ***DESERT*** requires first publication rights.
3. Each photograph must be labeled (time, place, shutter speed, film, and camera).
4. Judges are from ***DESERT's*** staff.
5. Prints will be returned if self-addressed stamped envelope is enclosed.

Address all entries to Photo Editor, ***Desert*** Magazine, P.O. Box 1318, Palm Desert, CA 92261.

**Dog (Cont. from pg. 32)**

"What's the big deal about walking dogs on the back trails?" I asked, still committed to the principles of the 1960s that cautioned against being intimidated by authority.

The Ranger hitched up his gun belt, on which was hung his Smith & Wesson .38-caliber revolver, and said, "They leave their scent."

I knew what he meant. Animals leave their scent to establish territory. I've done it myself.

"All animals leave their scent," I said, overreaching. Then, challenging: "So what?"

"It upsets the balance of nature," he replied, toughening. "You give me a bad time, I cite you for sure."

I'm a nice little guy who avoids trouble. Everyone says that. But suddenly I am confronted with a six-foot-two Park Ranger with a badge and a gun and a pickup truck telling me that my dog Hoover on a leash is upsetting the balance of nature. It is too much even for a nice little guy who avoids trouble.

"How in the hell," I demanded, stretching to the tippy toes of my platform shoes, "can you stand there with your gun and badge and pickup truck and tell me that my dog-on-a-leash is upsetting the balance of nature?"

"That's the law, fella!" he snapped. "Where would society be without laws?"

I figure the guy was at least a high-school graduate, maybe a couple years of city college. No one knows more about society and its laws than a person with those qualifications. Not even Ed Davis.

I hollered at him about his gun and his badge and his pickup truck and their abomination to nature, and about how me and my leashed dog were there before the park and before him and to hell with the chipmunks.

I thought for a moment that he might shoot me. He glared and fidgeted, which, like a shark flicking its tail, is a sure sign among certain species that they are about to attack.

"Ah, never mind," I said. Hoover and I went one way, the Park Ranger went the other.

I've thought about our confrontation since then, and in quieter moments have decided that the Ranger was probably right in enforcing the law's evaluation of what belongs in a park and what doesn't.

And so, a day or so later when I felt like taking to the trails again, I did the only sensible, responsible thing. I took along my pet goat. There's nothing in the law about goats — yet.

*by Al Martinez*

**— Western PROSPECTOR & MINER**

# HAYES BILL BECOMES LAW

***Sacramento, Calif.*** — Assemblyman Bob Hayes (R-San Fernando) expressed pleasure over the fact his revised Sagebrush Rebellion bill had been allowed to become law without the Governor's signature.

"We are going to have a study and report on the legal basis for California's assuming ownership of the 16-1/2 million acres of territory now run by the Department of the Interior, Bureau of Land Management," Hayes said.

"The Sagebrush Rebellion is alive and well and Cecil Andrus shouldn't forget it," said Hayes.

"Sagebrush Rebellion" is the tag hung on efforts by leaders in twelve western states to force the federal government to relinquish millions of acres of lands appropriated to federal use as the price for statehood when California and the others were admitted to the union. Andrus, President Carter's Secretary of the Interior, has pooh-poohed the seriousness of the Rebellion.

Hayes' bill calls for a study of the practices and policies of the federal Bureau of Land Management as well as the legal basis for state claims to ownership of the land, and provides for the state's Attorney General to take any steps he believes necessary to change the title of these lands from federal jurisdiction to state ownership.

The lands study is to be conducted by the State Lands Commission, the Attorney General, the Office of Planning and Research and the Department of Fish and Game and report the results before January 1, 1982.

Last year Governor Brown vetoed a Hayes' bill which called for a study by the State Lands Commission alone. The Republican from San Fernando then worked with the Brown Administration to put together a bill with which the Governor could live.

Hayes expressed some surprise that Brown didn't sign the bill, but said he expected the Governor was under some pressure from his Resources Secretary, Huey Johnson, who opposed Hayes' previous legislative efforts.

**— *Desert* News Service**

# Future of Death Valley Junction Assured

***Death Valley Junction, Calif.*** — Though it seemed for uncomfortably long that Death Valley Junction faced a perilous future (***Desert***, March 1980), its leading attraction, the Amargosa Opera House, has completed negotiations for the purchase of its historic home town.

The town site, abandoned except for the Opera House, had been on the market for over a year and many people responding to the ads offering it for sale came out, inspected it, and suggested that "the best thing to do would be to tear down the buildings and start all over again."

Of the total 253 acres, 11.4 acres which contain two groups of buildings have been proposed as a National Historical District. The buildings were erected by the Pacific Coast Borax Company between 1923 and 1925. If only because of Ronald Reagan's television show, there seemed little doubt that these adobe buildings were historically important and the California State Historic Preservation Office concurred.

Originally built as a company housing facility, the town became a rest stop for tourists en route to Death Valley National Monument after Pacific Coast's mining and milling operations ceased in 1947. With but a six-month tourist season, however, the town was never successful in depending upon only that for income.

According to famed ballerina Marta Becket and her manager-husband Tom Williams, who through a foundation own and operate the Opera House, a "Desert Campus and Study Center" will be created which will provide food and lodging, classrooms, darkrooms, laboratory and library facilities for the many study groups which come to the Death Valley area each year.

With their Opera House already established as an artistic base for the town, the Becket and Williams team hope to create an "atmosphere wherein the natural sciences and art may successfully intermingle."

The hotel and dining room will be re-opened to serve tourists as well as students and local residents. What used to be the grocery store will become a gallery to display works created at the Center, and it will also be used by the Amargosa Valley Art Association for exhibitions.

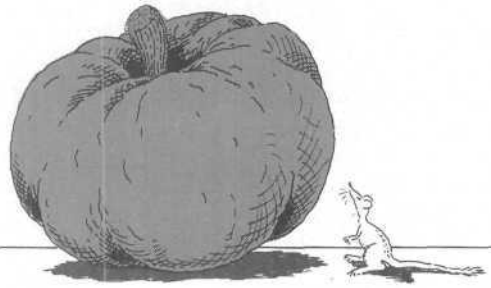
A fund-raising program aimed at private foundations, corporations and private individuals has been started. No attempts to obtain federal or state financing are envisioned as a matter of policy.

**—*Desert* News Service**

# CHUCK WAGON COOKIN'

# Pumpkin

by Stella Hughes



PUMPKIN IS SO good it ought not to be reserved only for jack-o'lanterns and Thanksgiving pies. Pumpkins are usually sold only during the fall and winter months and that's a shame, because pumpkins deserve better display than that. In fact it's a cryin' crime we don't serve pumpkin, in some form, at least once a month, every month of the year. Not just in pies either, for there are pumpkin custard, pound cake, bread and muffins, as well as cookies and even pumpkin ice-cream and pumpkin soup. Then there's nothing wrong with serving plain baked pumpkin as a vegetable, slathered with butter and a little salt and pepper.

Native Americans were using pumpkins when the first settlers arrived and generously shared this good food, as well as the seeds and cultivation instructions, with the newcomers. In New England, the first pumpkin "pie" was made by cutting off the top of a pumpkin, taking out the seeds, filling the cavity with milk, spices, and a natural sweetner such as maple syrup or honey, then baking the whole thing. Sounds pretty good. Another way to use plain pumpkin is to peel, cut in chunks and boil until very tender. Mash the pulp or put in a blender, season as you would sweet potatoes, or merely serve with butter.

Dried pumpkin is not new, either; the pioneer Americans dried pumpkin and pumpkin seeds. The best method was to slice around the pumpkin in circles, about an inch thick. Then scrape out the fiber and seeds, and string the rings on wires or heavy cord. During winter or freezing weather, the pumpkin rings were hung on a long stick and dried slowly in front of a fire until they were like tough leather.

Did it ever occur to you that pumpkin can be used as a custard instead of a pie filling, and still be the same mouth-watering concoction of milk, eggs and spices? Back in the early 1940s I was camped with my husband, Mack, in a gawd-forsaken canyon south of Winslow, Arizona. The country was inhospitable, with great, deep, scarey cracks, lots of red dust storms, sidewinders, and only one scrubby juniper tree for shade. It was a sorry camp with no cook tent, or even a fly, and only a nine-by-nine sheepherder's tent for privacy and sleeping. We had an old-time chuck-box taken from the back of a real chuckwagon to serve as a worktable and kitchen cupboard. Mack and one of the cowboys lifted this heavy contraption onto two kiack pack boxes stood on end. This didn't bring the worktable of the chuck box high enough to keep from breaking my back, but was a derned sight better than sitting on the ground.

Mack was holding 800 head of cows on leased land for an estate until said estate could be settled, the cows sold, and the heirs could start spending all that money. There were no buildings or corrals on this leased range, and mighty few fences that would hold cows from roaming a hundred miles in any direction. Mack and the three cowboys rode all day, every day, and usually rode in just before dark (those bottomless cracks weren't conducive to night riding), so that meant I was alone in camp all day. It was a "greasy sack" outfit, meaning little chuck, besides beans and salt pork, a couple of Dutch ovens and tin dishes. All meals were prepared on an open campfire, and it tried all my culinary expertise (almost nonexistant then) to come up with meals that weren't monotonous to the point of being nauseous, especially to me as I was pregnant.

The administrator of the estate was trying to cut corners and he felt the first place to save lots of money was to spend as little on groceries as he could get away with. I did manage to buy a case of canned pumpkin, and on rare occasions bought eggs. We always had plenty of canned milk

and sugar, so I experimented with baking pumpkin custard, instead of pies, because I thought baking pies in a Dutch oven would be impossible.

After the breakfast fire had died down to ashes (we burned juniper or cedar) I'd mix up a custard of pumpkin, sugar, eggs and spices, pour into a Dutch oven, put on the lid and bury the oven in hot ashes. I said *ashes,* not coals. The ashes would be too hot to put your hand in, but would not ignite a chip of wood. The main thing was to bake slowly, as though it were being done in a modern gas range with the oven set at about 275 degrees. At no time did you want the custard to boil or bubble, or it would separate and become watery. Within an hour or so, the custard would be done and could be taken from the ashes, the lid removed so the custard wouldn't sweat, and the oven set on top the chuckbox to cool, and kept safely from the jillions of ants. This pumpkin custard was a welcome change from the usual dessert of stewed dried apples, or just sourdough biscuits with Tea Garden syrup.

Pumpkins grow more pounds of flesh per plant than any other garden thing I can think of. If you're a back-to-nature cook but have never prepared a fresh pumpkin, here are some tips. Choose pumpkins that are a bright orange, heavy for their size, and without blemishes. Small ones are more tender than the giants, and there's even a variety grown called "pie" pumpkin that is ideal for making pumpkin pies.

After choosing your pumpkin, cut it in half and scoop out the fibers and seeds (keep seeds for drying), and then cut it into pieces to be peeled. Sometimes pumpkin can be a very tough customer, and breaking off chunks seems easier than peeling. Cut peeled pieces into very small chunks, cover with just enough water to keep from scorching, and simmer until done. In a pressure cooker, pumpkin can be cooked in 15 minutes, at 13 to 15 pounds pressure, depending on your altitude. Pumpkin can then be mashed with a potato masher or put through a sieve.

*Make a regular nine-inch pie crust, and build up the edge with an extra strip of crust; press with tines of fork. Pour in pumpkin and bake 20 minutes at 425 degrees; reduce heat to 375 and bake until it raises up, then makes small cracks around the edge.*

I'm never satisfied with leaving well enough alone, and when baking pumpkin pies I usually add several tablespoons of maple syrup or molasses, omitting some of the white sugar. I wouldn't dream of leaving out brown sugar, yet you'll seldom ever see a recipe calling for *any* brown sugar. Nor does a half teaspoon of vanilla ever hurt a pumpkin pie; it gives it a little pizzazz.

## *QUICK PUMPKIN BREAD*

*1-1/2 cups sugar*
*1/2 cup vegetable oil*
*2 eggs*
*1-2/3 cup flour*
*1/2 teaspoon baking powder*
*3/4 teaspoon salt*
*1/4 teaspoon cinnamon*
*1/2 teaspoon cloves*
*1/2 teaspoon nutmeg*
*1 cup canned pumpkin*
*1/2 cup chopped nuts*
*1 cup raisins*

*Thoroughly mix together first three ingredients. Sift together dry ingredients and add to the sugar mixture. Mix well, add pumpkin, nuts and raisins. Pour into a standard breadpan and bake at 350 degrees for 1-1/2 hours. Remove from the pan and cool on rack. Dates can be substituted for the raisins, and ginger can be added to the spice list if desired.*

## *PUMPKIN COOKIES*

*1/3 cup shortening*
*1 cup sugar*
*2 eggs*
*1 teaspoon vanilla*
*1 teaspoon lemon extract*
*1 cup canned pumpkin*
*2-1/2 cups flour*
*4 teaspoons baking powder*

# Give The Desert For Christmas

## Poppies In The Snow?

The above illustration is an impression of Christmas time in the Chocolate Mountains of Southern California by one of our young readers. We are reliably informed that in instances of sudden inclement weather, this phenomena is actually possible — in any event, Kelly has painted it as an unusual and dramatic bit of desert beauty.

We all have a particular interest in our desert lands as they appear year around. They are always enchanting, mysterious, and most of all, beautiful. Some of the most interesting legends of our great country are centered in our desert lands — equally, some of our greatest civil conflicts, some of our most significant legends of buried treasure, and some of our most entertaining stories of the heroes and heroines of a past age.

We would like to invite you to extend Desert as a gift to your friends and loved ones. Perhaps for them it will be a new experience or a continuation of interests and fascinations they already hold. No matter what the reason, we would like you to be assured that future issues of Desert will portray with substantial feeling your love for our great out-of-doors to your friends and special loved ones throughout the coming year.

To order Desert as a gift simply complete the adjacent insert card, or if multiple gifts are involved, repeat the same information on a separate sheet of paper.

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#4112

**Doctor George Fischbeck**
**KABC-TV** 4151 Prospect Avenue, Hollywood, California 90027 Teleph 213 557 7777

# Earthquake!

Dear DESERT Readers:

We who live in the Southwest, and particularly California, live with earthquakes! We go along with the idea that "there's a big one coming," don't we? The idea doesn't seem to distract us in the least. Every day we go about our business lives, our home and social lives, and our religious lives with that old "we can't do anything about it" attitude. As a matter of fact, we're quite right. WE CAN'T DO ANYTHING ABOUT IT!

Or can we? Let's discuss it right now:

Most of us who live in California have read about the San Andreas Fault, or at least we are aware of its existence. We know that there's a very good chance of its action changing our lives at any moment, but we don't let that worry us. Here we are in one of the most populated regions of the United States and still, we are incapable of doing anything about the threat of earthquakes. What do we do to protect ourselves? Well, first of all, we can learn more about our situation, and secondly, we can prepare ourselves for the future.

As you know, friends, I've been interested in earthquakes for a long time. Perhaps you've seen my television programs on KABC-TV, Channel 7. I've discussed disasters of every type from tsunamis to tornadoes. I've done film coverage on hurricanes, floods,

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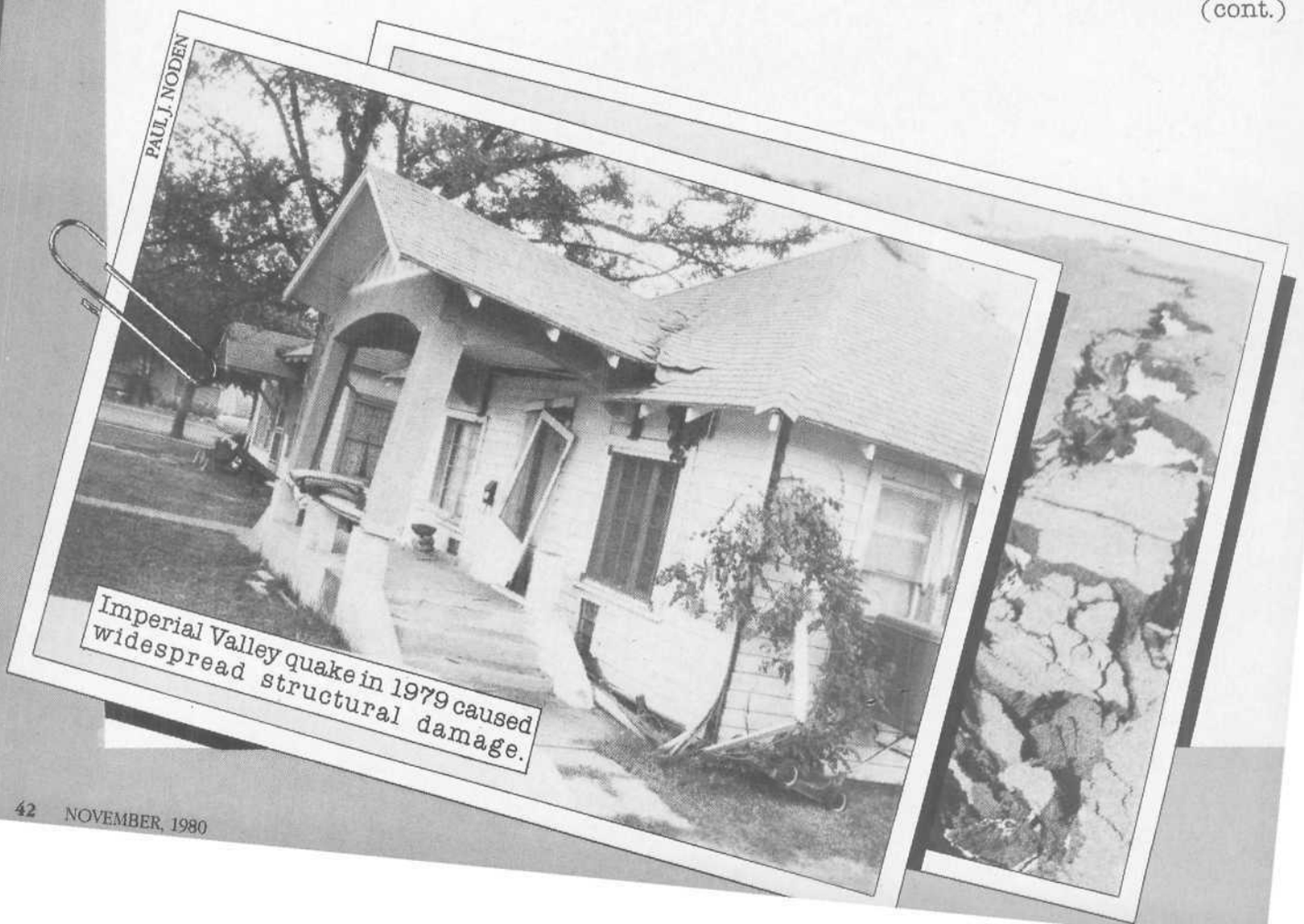



Imperial Valley quake in 1979 caused widespread structural damage.

PAUL J. NODEN

Imperial Valley quake centered on El Centro, registering 6.5 on the Richter Scale.

UNITED PRESS INTERNATIONAL

San Francisco as it looked after the granddaddy of modern U.S. quakes in 1906.

PAUL J. NODEN

forest fires and erupting volcanoes, but the most chilling subject to me is the sudden, violent thrust of an earthquake.

I'm learning as I go along, dear friends, and I'd like to share this information with you.

A few years ago, lack of information caused an exodus of hundreds of people who were convinced that California was going to fall into the Pacific Ocean on a given date. Let's get that idea out of our minds. After all, the sea is a mere two miles deep along our coastline, and California is twenty miles thick! We are *NOT* falling into the sea, but we *ARE* moving! We are moving in a northwesterly direction, inch by inch, year by year. In fact, if we could stick around long enough, we'd find California somewhere up around Alaska. This is a situation similar to finding Baja California in its present location, rather than being attached to the Mexican mainland where it originated, thanks to the action of the San Andreas Fault which, over millions of years, ripped Baja from the mainland, we now have that wonderful Sea of Cortez.

Have you readers of ***Desert*** Magazine heard of the "ring of fire?" It's a fascinating subject and one which scientists know to be a fact. It concerns belts of volcanoes which do indeed form a ring-of-fire. Why? Because the gigantic plates or blocks of crust which cover earth's surface. They bump into one another, slide over each other, grind against one another and, in general, act like a massive group of glaciers rubbing themselves together. These plates, torturing themselves as they went into action, were responsible for the San Francisco earthquake of 1906.

Yes, we have our problems here in California, but we are not the only area in the world to experience the violent action of these moving plates. Visualize in your mind's eye, dear friends, the southern tip of South America. The ring-of-fire begins here and runs north along the west coast of the Chili, directly through Central America, right up the west coast of the United States, clear to Alaska. Here, it heads west across the Bering Sea, and then turns south to the island of Japan. Further south it completely takes over the Philippines, then veers east to encompass New Guinea, the Solomon Islands and the New Hebrides. Even Guam and its satellite land masses of Rota, Tinian and Saipan are included. The Fiji Island and New Zealand fall under its control as does New Caledonia. In the center of the ring-of-fire sit our Hawaiian Islands. This is volcano country; consequently, it is earthquake country!

Our earth is changing in degrees we find difficult to comprehend. These immense earth-plates, rubbing edge-to-edge, cause our earthquakes and enhance the development of volcanoes which, in turn, cause more quakes as they grumble and possibly erupt. Quite recently we saw this happen at Mt. Saint Helens which may or may not be connected somehow to Mt. Hood, which also threatened. We can see evidence of these plates as they work against one another, but perhaps we fail to recognize the results. Each California day brings hundreds of "quivers" which are so slight as to be undetectable. Still, we find cracks developing in our plaster walls, in sidewalks which mysteriously drop or rise an inch or so, and in the deterioration of our streets and highways.

Yes, friends, we are certainly in earthquake country. The state of California is literally laced with faults. The San Andreas Fault comes ashore from the Gulf of California and splits our state as though it were an over-ripe watermelon with a crack! The system reaches north almost to Oregon before it disappears into the Pacific Ocean.

In the southern and desert regions of California we must be aware of the Imperial Fault (Imperial Valley), which is an offshoot of the San Andreas system. We knew nothing about this fault until 1940 when an earthquake shook both sides of the U.S.-Mexico border with a magnitude of 7.1, and again in 1948 when Desert Hot Springs was jolted with a 6.5.

The Salton Sea is straddled by the San Andreas on the east and by the San Jacinto fault on the west, the latter being perhaps the most active branch since it has been the source of many important quakes. Land shapes along its route give silent testimony to its long-term influence on California's topography.

Back in 1933, the Newport-Inglewood Fault turned Long Beach into a disaster area, thereby dispelling any doubts as to its existence which seismologists knew about in 1920 when a small quiver called attention to it.

The San Fernando Fault was sort of a sleeping giant until 1971 when it spread devastation throughout that area.

The Garlock Fault is the second largest fault in the state of California. It is responsible for the mountain ranges which form the northern edge of the Mojave Desert, but for some strange reason it has never produced a great earthquake in recorded history although it is indeed one of the huge fractures in our earth.

White Wolf Fault, short and insignificant as it may be when compared to other local faults, made its move in 1952, causing a major quake in the Arvin-Tehachapi area.

The magnificent escarpment which forms the eastern edge of the Sierra is the Sierra Nevada Fault. The Owens Valley branch of this system gave California its largest recorded quake in 1872.

Not all earthquakes originate directly under us, although most tremors along the San Andreas Fault begin about five miles down. I personally witnessed a quake in central Mexico, just south of Lake Chapala. It originated about 200 miles west, under the sea. In a five-mile swath it tumbled everything in its path from the Pacific Ocean to the Gulf of Mexico. It was the first quake in that area for the past 28 years and although my house sustained very little damage, I was intrigued by the way the water in my swimming pool jumped into the air in one huge cube before shattering and entering my living room.

Now, my friends, let's get back to the subjects of survival and preparation.

Can we predict earthquakes? Yes, we can.

The prediction of earthquakes became a reality in 1949. Almost every nation in the world is interested in this problem. Russia, China and the United States have come through with actual proof.

Scientists have found that rocks, deep in the earth, register obvious changes in electrical resistance just before an earthquake strikes. Water in wells are found to contain more of a radioactive gas known as radon than is usual. Land surfaces above the impending quake area often alter their shapes by rising, sinking, or otherwise deforming, even twisting horizontally.

More than 400 deep-set seismometers have been placed in strategic locations by the Earthquake Mechanics and Prediction Laboratory of Menlo Park, California. Each is sensitive enough to register even a rabbit hopping by. There are devices to measure warping of the earth's surface and others, the radon gas content of certain waters. We are indeed able to predict earthquakes, but we will *never have* a perfect system because we are not perfect and nature is unpredictable. We're using strainmeters to measure expansion and contraction of crustal rock, gravemeters to record changes in underground rock density, creepmeters to register horizontal movement across any given fault, and magnetometers which report local changes in the earth's magnetic field. What more can we do to keep our folks informed as to what might be coming?

Not long ago I learned that the first valid U.S. earthquake prediction *DID NOT* take place in California where we are totally instrumented. It happened in 1973 in the Adirondack Mountains of New York state. Doctor Yash. P. Aggarwal of the Lamont-Doherty Geological Observatory discovered changes in the speed of seismic waves from seismometers placed around Blue Mountain Lake. He calculated that a shake of magnitude 2.5 to 3.0 would occur within two to four days. *AND IT DID!* A quake of 2.6 on the Richter scale came through right on schedule and met the three requirements for proper earthquake prediction: the correct time, the specific location and the calculated magnitude. So, you see dear readers, it can be done, and California is prepared for it. Scientists are doing all they can to let you know just when and where to expect our next temblors.

Still, it occurs to me that perhaps we're just a little spoiled by the up-to-the-minute news coverage we get on practically everything that happens in our modern world, even to the point that we are quite blase when it comes to watching one of our astronauts walk on the surface of the moon. Have you felt that too?

In that light, take a look at these facts:

If earth's total age, now estimated by geophysicists at about 4-1/2 billion years, is taken as a single 24-hour day, today's ocean basins are scarcely an hour old! By the same measure, our cave-dwelling ancestors were hunting mammoths less than one second ago! Its looks like this:

1 second = 50,000 years
1 minute = 3 million years
1 hour = 180 million years
24 hours = 4-1/2 billion years

So you see, folks, by that scale, just a split second ago our scientists began to learn how to predict earthquakes which had their beginning 24 hours ago when our earth was born. The job is certainly much more difficult than predicting tomorrow as a smoggy day! We must give our people the time they need to learn more about our situation.

Friends, there may be something to be learned from the fact that the Chinese have actually kept records of earthquakes in their country for more than 3,000 years. This is a spectacular bit of documentation which accounted for the fact that in 1975, Chinese seismologists sent out a frantic warning to the people of Haicheng in southern Manchuria. Just 5-1/2 hours after the warning, based on ancient records and modern instruments, the earthquake struck. Casualties were not considered to be heavy, contrasting their quake of 1556 when one big shake took 820,000 lives!

So when does the next Big One hit Southern California?

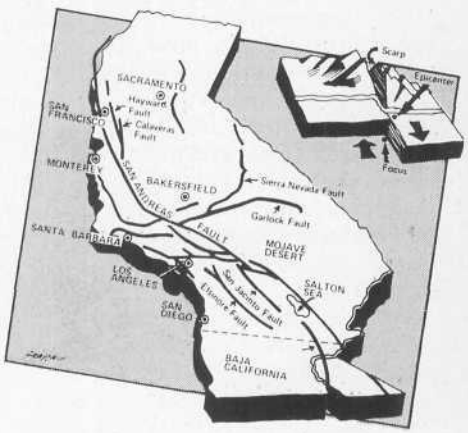
I can't even begin to hazard a guess, folks, but most scientists agree that there *WILL BE ONE!* Meanwhile, I'm giving a Triple-Twitch of My Bow Tie to all of us who continue to build high rise office buildings, immense river dams, beach condos and magnificent spans of bridges. We just don't give up, do we!

What do we do when the next Big One hits?

There are certain rules, but they aren't always as easy to follow as one might think. We *MAY OR MAY NOT* have sufficient warning. Even with early-warning, would we actually evacuate our areas? *COULD WE EVACUATE?* Our freeways just possibly could become the longest parking lots in the world. Imagine hundreds of thousands of drivers trying to get to what they consider a safe area. Our traffic situation is deplorable on an average business day. What would happen if a catastrophe was in the offing! None of us can answer that question, friends, but we can certainly visualize it.

First of all, we must realize that the initial shock of the earthquake may not be the *ONLY* shock. Earthquake motion may last less than one minute, but aftershocks may occur very soon. If the jolt is severe, we may find that even walking or running is impossible. Head for an open area if you can make it, but don't get into the range of falling debris or electrical lines. Get away from buildings which are likely to collapse. Do not run into the streets. Get into a doorway if you can. Stay away from chimneys which are prone to fall. Get away from masonry walls and large glass areas. Crouch under your desk, your table, or roll under your bed. *WAIT IT OUT!* Then, when the shaking comes to an end, take your time as you organize your thoughts.

Check your family and neighbors for injuries. Check for fires. If you smell gas, turn off the main valve (learn where it's located) and leave it off until the utility company authorities advise you as to what's happening. Fill containers with water, but don't overdo it. Remember, other folks are doing the same thing and that thousands of taps running at the same time could seriously impair the water needed by fire fighters. Use your telephone for emergencies only. Don't drive around your area. Emergency vehicles will need all the space they can




get. Check your house or apartment for damage. Large, heavy objects may have been moved just enough to fall during an aftershock. *AVOID RUMOR!* Don't believe everything you hear. Use your own good judgment, and above all, *DON'T PANIC!* Crying and screaming doesn't seem to help anyone.

After everything is safe in your own home, try to help others. Heed requests for assistance and pay attention to emergency instructions given by official organizations such as police departments, civil defense groups and fire departments.

Stay calm.

Well, dear readers of ***Desert*** Magazine, we've learned a few things together in this article, but I'd like to point out that there is much more information available to you. I suggest you get it, read it, act on it, and be prepared for the future.

More than likely a major earthquake will never take place during your lifetime — hopefully, that is. However, the possibility does deserve consideration.

Thank you for spending your time with me. Until we meet again, I remain,

Cordially yours,
Doctor George Fischbeck.

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***Editor's note:*** Certain data in this article were derived from *Earthquake Country,* R. Iacopi, Sunset Books, 1971, and *National Geographic Magazine,* January, 1973 — "This Changing Earth" by Samuel W. Matthews, and "California's San Andreas Fault" by Thomas Y. Canby & James P. Blair.

# Early Boating on the COLORADO

A century and a quarter ago, Lt. Joseph C. Ives of the U.S. Army's Topographical Engineers played a little-remembered role in the navigational history of the Colorado River. It happened during the 1850s the Army was engaged in an ambitious attempt to explore and survey potential transcontinental railroad routes to the Pacific Ocean. Ives had his first experience with the Colorado in February, 1854, when, as a member of Lt. A. W. Whipple's expedition, he was placed in charge of ferrying the party across the river.

Whipple had been ordered to survey a rail route from Fort Smith, Arkansas, to Los Angeles, and the party was less than a month from their West Coast destination. They had just explored the beautiful Mojave Valley, and having been in the field for seven months they were anxious to move on. But the broad Colorado lay in their path.

Under Ives' supervision an "old and much-worn India rubber pontoon" was inflated with air, and the body of a spring-wagon was lashed on top. Though in Whipple's words it "sat on the water like a swan," it proved to be more akin to an ugly duckling. Almost immediately two of the pontoon's compartments collapsed and the wagon filled with water. Some mending and re-inflating soon had the pontoon afloat again — it "danced lightly on the water," said Whipple — and Ives got on with the river crossing. The gondola-like vessel, towed through the three-mile-per-hour current on long ropes from the oposite shore, capsized four times that day, spewing its contents into the river and forcing its passengers to struggle for their lives.

Amused Mohave Indians, skilled swimmers, saved much of the cargo, but many books and papers were lost, scientific instruments fouled, and even several sheep drowned. The Mohaves, deftly maneuvering their light willow rafts, were probably not greatly impressed by the sophisticated technology of the U.S. Topographical Engineers, and Ives resolved to never again depend on inflatable pontoons.

A few years later, Ives, still a mere lieutenant, was given far greater responsibility and another opportunity to challenge the mighty Colorado. He was placed in command of the Colorado Exploring Expedition, his mission being to determine how far upstream the Colorado was navigable to steamboats. In the incredibly short time of two months, Ives received his orders from the War Department, ordered from Reaney, Neafie & Co. of Philadelphia the construction of an iron steamboat that could be broken down into sections for rail transport, supervised a shakedown cruise on the Delaware River, and had the boat dismantled and loaded on a ship in New York harbor ready to depart for California.

Ives' yet un-named steamboat was hauled across the Isthmus of Panama by rail, and shipped to San Francisco. On November 1, 1857 Ives and a party of nine, including steamboat engineer A. J. Carroll, sailed on the 120-ton schooner *Monterey* for the head of the Gulf of California. Their steamboat's eight hull sections and three-ton boiler severely overloaded and crowded the decks of the *Monterey*. Ives and Carroll shared cramped quarters with a sympathetic Capt. Walsh, the *Monterey's* master. After a month at sea the *Monterey* anchored at Robinson's Landing on the treacherous mudflats at the mouth of the Colorado, and in early December the portable steamboat was unloaded.

Assembling the iron boat was to prove a herculean task. Driftwood needed for derricks and launching ways had to be dragged a mile and a half across the mud flats. The boat had to be assembled in a trench fifty feet long, fourteen feet wide, and five feet deep, dug laboriously in wet clay that stuck tight to every shovel. Sixty holes had to be drilled by hand into the boat's thick iron bottom to attach wooden braces to keep the hull from bending under the weight of the oversized boiler. These braces would later cause the steamboat to hang up on sandbars and snags, greatly delaying its progress. It took ten men a whole day to move the boiler a scant thirty yards. But on Christmas Day, 1857, the boiler was filled, steam was got up, and the 54-foot long stern-wheeler with boiler amidships and four-pound howitzer on its bow was christened *"Explorer"*.

When the river pilot, Capt. Robinson, and the rest of Ives' crew joined the boat party at Fort Yuma, their strength was brought to 24 men. The *Explorer* had no sleeping or eating facilities, so each night its crew would camp on shore. They stopped often to cut mesquite and willow to feed the hungry boiler. In the next three months Ives and the *Explorer* experienced many adventures involving Indians, sandbars, and low water. New sights beckoned around every bend of the river. The *Explorer*, called "Chiquito Explorer" by River Indians, sounded its screaming whistle past Explorer's Pass, Purple Hill Pass, Red Rock Gate and Sleepers Bend. It echoed from Lighthouse Rock, Chimney Peak, the Riverside and Monument Mountains. The *Explorer* was dwarfed by the walls of Mohave, Pyramid, Canebrake and Painted Canyons.

Finally the head of navigation was reached at the mouth of Black Canyon, 500 miles upriver from the mouth of the Colorado. With his captain and mate, Ives explored further in a skiff, eating from a bucket of corn and beans for three days, and compensating for a broken oar by rigging its stub and a blanket into a makeshift sail.

On March 23, 1858 the *Explorer* put out from Ives' Camp 60 on the shore of Sitgreaves' Pass, and turned downstream. Capt. Robinson was to return the now-useless steamer to Fort Yuma while Ives and a few men continued overland to explore the "Big Canyon" and points north and east. Having learned from sad experience how not to cross a river, Ives had equipped his land party with a portable "Buchanan boat." This was an eleven footer made of canvas stretched across a pine frame. Weighing only 150 pounds, it could ferry twelve men, be put together in ten minutes, and be carried by one pack animal. Ives found it far superior to the pontoon that "sat like a swan." It came in handy on the overland journey, and after two months Ives reached Fort Defiance.

His mission completed, Ives rode as a passenger on the Santa Fe-El Paso stage and took the southern overland mail route to San Diego. He stopped briefly at Fort Yuma, where he found Capt. Robinson still in charge of the *Explorer*. After "disposing of the little boat" — Ives did not specify in his report just how — he made his way to New York via San Francisco, putting an end to his navigational career on the Colorado.

*by Ronald M. Lanner*

ILLUSTRATIONS COURTESY OF FLANIGAN'S OLD PRINTS, LOGAN, UTAH

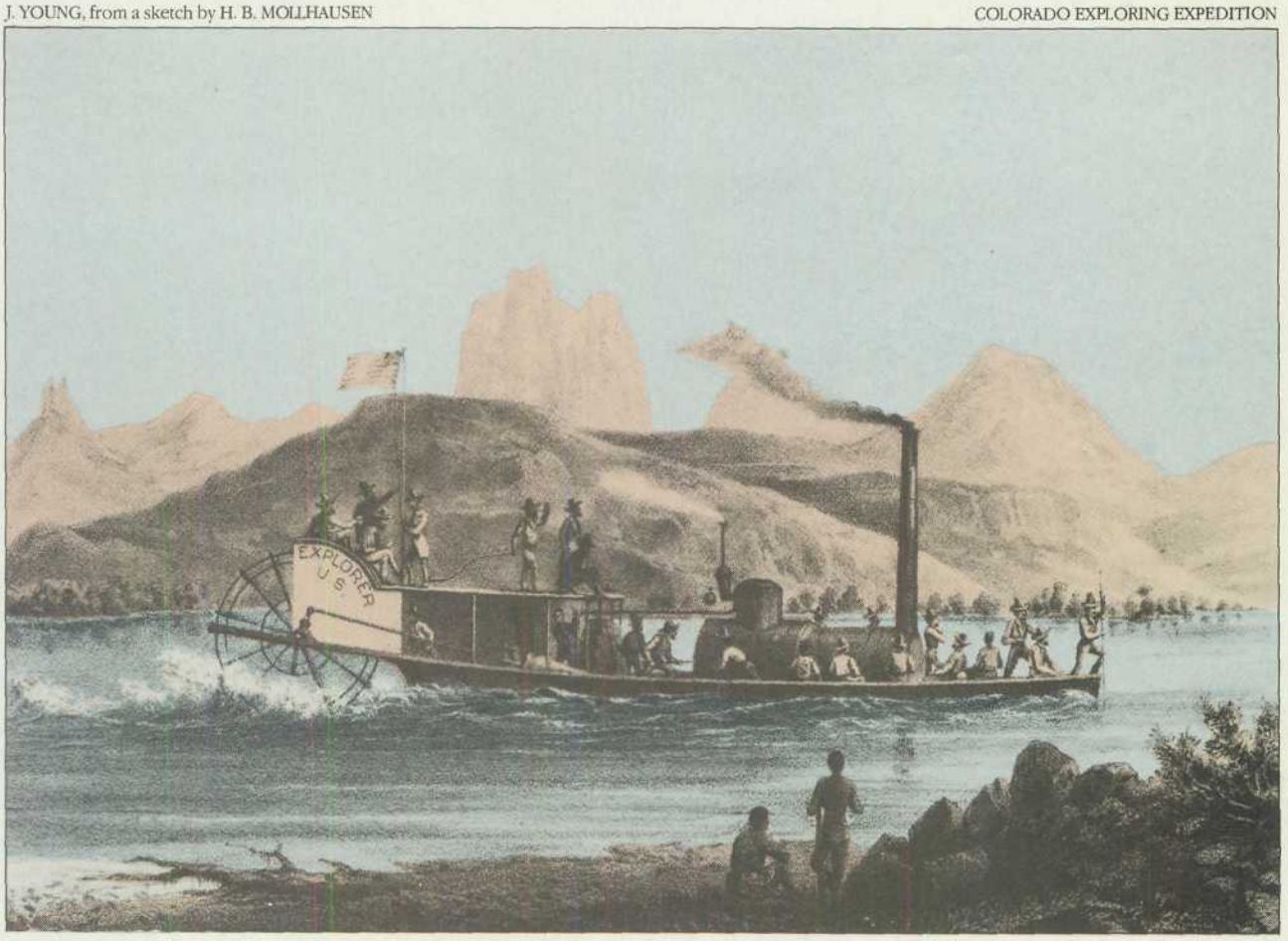
J. YOUNG, from a sketch by H. B. MOLLHAUSEN

COLORADO EXPLORING EXPEDITION

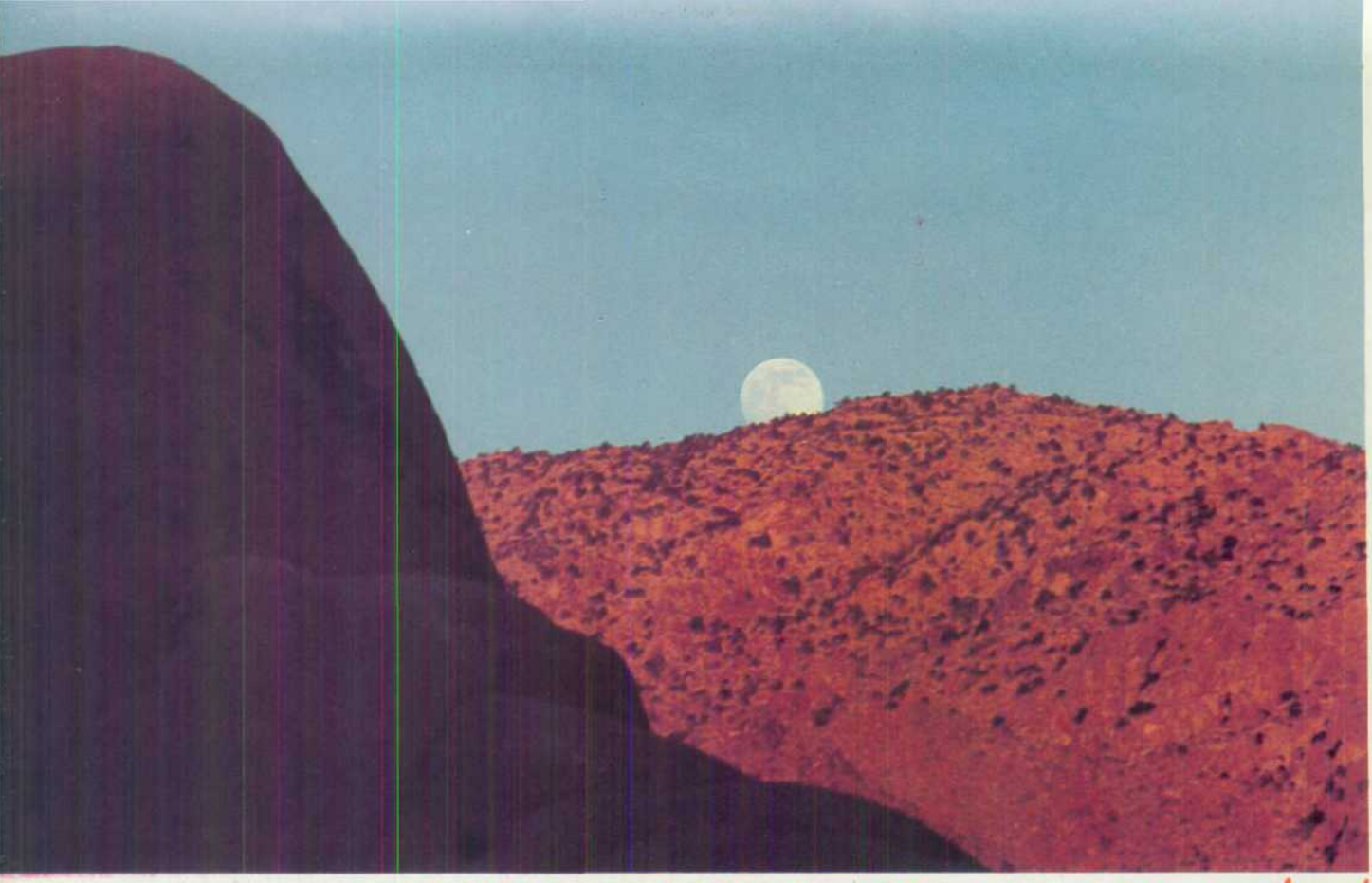
*Explorer* dwarfed by the walls of Mojave Canyon.

J. YOUNG, from a sketch by H. B. MOLLHAUSEN

COLORADO EXPLORING EXPEDITION




The *Explorer* sounds its whistle as it passes Chimney Peak.



*"NATURE HEAVED UP THESE MOUNTAINS AT ONE TIME TO FULFILL A PURPOSE: SHE IS NOW TAKING THEM DOWN TO FULFILL ANOTHER PURPOSE."*

# VAN DYKE'S DESERT

*an appreciation by*

JON WESLEY SERING

*photographs by the author*

**AT THE TURN OF this 20th Century, voices of the conservationist movement had been focused on the greenery and spectacular of America — the forests of the East, the Yosemites, the Yellowstones. It wasn't until 1901 that a new voice was heard.**

*"THE SHIFTING SANDS! SLOWLY THEY MOVE, WAVE UPON WAVE, DRIFT UPON DRIFT; THE SURFACE OF THE DESERT IS FAR FROM BEING A PERMANENT AFFAIR."*

*"NEVER AGAIN SHALL YOU SEE SUCH LIGHT AND AIR AND COLOR. AND WHEREVER YOU GO, BY LAND OR BY SEA, YOU SHALL NOT FORGET THAT WHICH YOU SAW NOT BUT RATHER FELT — THE DESOLATION AND THE SILENCE OF THE DESERT."*

*"THE MOST COMMON CLOUDS OF ALL ARE THE CUMULI. IF SEEN AGAINST THE SUN THEIR EDGES FIRST GLEAM SILVER-WHITE AND THEN CHANGE TO GOLD."*

John C. Van Dyke, an eastern professor of art, wrote a book entitled simply *The Desert*. The arid Southwest, land long considered as a barren and inhospitable wasteland, was exalted by Van Dyke as a place of beauty and reverence. Van Dyke became the first to write of the desert in praise and recognition, and to many his book has remained one of the best. In the Preface of *The Desert* he wrote:

> *"The desert has gone a-begging for a word of praise these many years. It never had a sacred poet; it has in me only a lover."*

Van Dyke's work had a far reaching and long lasting effect on other writers. Shortly after *The Desert*, Mary Austin came out in 1903 with *Land of Little Rain*. In 1906 George Wharton James published *The Wonders of the Colorado Desert*. J. Smeaton Chase, whose photographs illustrated some of the later printings of *The Desert*, wrote *California Desert Trails* in 1918. In addition, books by Zane Grey, Joseph Wood Krutch, and indirectly, Edward Abbey, all seem to be affected in varying degrees by the insights originally set down by Van Dyke.

John C. Van Dyke came to the desert a stranger. Born in 1856 in New Brunswick, New Jersey, he received his education at Columbia and studied art in Europe for several years before becoming an art professor at Rutgers and a lecturer at Harvard, Princeton and Columbia.

His cousin was the well-known poet-essayist, Henry Van Dyke. But it was his brother, Theodore S. Van Dyke, who appears to have influenced John Van Dyke's exodus to the desert Southwest.

Theodore had moved to Southern California in the 1870s and wrote several regional books and had a newspaper career in Los Angeles and San Diego. He later moved on to the Silver Valley Ranch near Barstow in the Mojave Desert and served as Justice of the Peace in Daggett until his death in 1933. Theodore had moved to the desert for his health. John followed suit in 1897, at the age of 42, seeking relief from a respiratory illness. In his book *The Open Spaces* (1922) he reminisced about his desert wanderings:

> *"I was already ill and went into the open of the desert to get well. Many of my days in there were ill days. But I kept busy making notes and studying vegetation and animals. I had determined to write a book about the desert, and it was necessary that I should know my subject.*
>
> *"Why did I go alone? Because I could find no one to go with me. They were all afraid of — nothing."*

John Van Dyke spent approximately two years wandering over the deserts of the Mojave, Colorado and parts of the Sonoran. His travels, which included summer journeys, were not completely solo. His able companions included a large fox terrier and a desert-bred horse. During one six-week stretch he saw, "neither rag nor bone nor hank of hair of humanity."

Van Dyke was desert-wise in his travels. He explored, not as an adversary, but in harmony with the sometimes harsh environment. He went as lightly as possible. He carried a pistol and rifle for small game, a shovel and hatchet, a pair of light blankets, a gallon of water, some tin cups and a small pan, and several sacks of home-prepared dehydrated food. His food consisted of ground corn and beans, coffee, chocolate, salt, nuts and dried venison. His entire outfit weighed just under fifty pounds.

Van Dyke's mobility enabled him freedom to travel the desert expanses at will. The desert he saw and experienced he wrote of in an eloquent and unsurpassed style. He wrote, not a travelog, but a visual description of the desert through the eyes of an artist. He perceived the changes in light, color and texture as the day progressed and their effect on the features of the landscape. In describing the dunes of the Salton Basin before the Colorado River overflowed its banks and created the Salton Sea, Van Dyke wrote one of his most poetic and visual descriptions:

> *"The dunes are always rhythmical and flowing in their forms; and for color the desert has nothing that surpasses them. In the early morning, before the sun is up, they are air-blue, reflecting the sky overhead; at noon they are pale lines of dazzling orange-colored light, waving and undulating in the heated air; at sunset they are often flooded with a rose or mauve color; under a blue moonlight they shine white as icebergs in the northern seas."*

Van Dyke strove to bring his readers closer to an understanding of "the sandy wastes, the arid lands, the porphyry mountain peaks." He adapted himself to the everchanging desert. He explored its mountain ranges, collected water by digging in the sands of arroyos and finding *tinajas*, and wandered across vast, open valleys and dry lake beds. Many of the areas he visited had only been traveled before by Indians. These are the same lands now occupied by cities, military reservations, bombing ranges, highways and transmission lines, and Bureau of Land Management lands, some of which are under wilderness studies. From his writings it is known that Van Dyke strolled across the desert of Southern California and on into southern Arizona and northern Mexico.

While much that Van Dyke wrote was of the natural history and visual experiences of the desert lands he had learned to deeply love, he did not mince words in support of conservation. He opposed all desert development and felt that man must learn to adapt to the desert to insure a healthful relationship. Seeking to adapt nature to man, Van Dyke reasoned, could only bring about destruction.

For example, Van Dyke worried over man's alterations to the arid and natural landscape. He was appalled at the irrigation of the Imperial Valley, fearing that the climate of Southern California would be adversely affected by the increased humidity:

> *"The deserts are not worthless wastes . . . The deserts should never be reclaimed. They are the breathing spaces of the West and should be preserved forever."*

*The Desert* was long out of print until fortunately, the Arizona Historical Society in Tucson published a reprint of the "corrected" 1903 edition in 1976 (The Arizona Historical Society and Arizona Silhouettes, 949 E. 2nd St., Tucson, AZ 85719). Included in the reprint is an excellent introduction by Lawrence Clark Powell.

Van Dyke wrote, "my book is only an excuse for talking about the beautiful things in this desert world." But *The Desert* is more than a book praising and exalting the beauty of the Southwestern desert. And Van Dyke was more than a wanderer and disciple of the desert. As the same Lawrence Clark Powell wrote in *Westways* (March 1972), "*The Desert* is the enduring creation of one who in truth saw it first and said it best." Van Dyke shared a gift with all who enjoy the desert. A gift that will last forever. He was able to give words to the desert winds.

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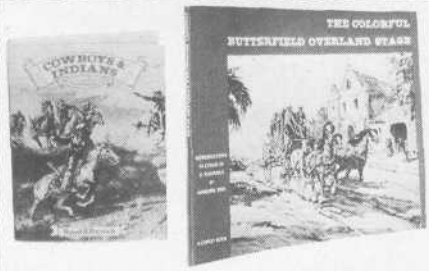
# History

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